MONEY AND CREDIT

WILBUR ALDRICH

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BY

WILBUR ALDRICH

Author of "Farming Corporations"

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PREFACE.

TEN years ago the author, an humble student of economics, began studies to substantiate a pet theory which he intended to inject into the heated political discussions of monetary theory then in progress. He read history and descriptions of different civilizations, and books pertaining to money that contained facts rather than theories. After a time the original theory which started the investigations disappeared, and there was developed a view of the subject as new to the author as it will be to any of his readers. While the discussion of monetary problems has somewhat subsided, the matter has entered into a final stage in which acts of the legislature and methods of business will be enacted and settled permanently. A new treatise on the subject is therefore just as timely as it would have been at the period of fiercest controversy.

It is very essential that men of affairs as well as the thinking public generally should have a restatement of monetary fact and theory embodythe results of evolution and discussion down to date, in advance of the practical progress upon which the whole matter is entering. Moreover, now that one soft money delusion has been cured, the old disease in the new and

more insidious forms, attacks those whom everybody supposes immune. The increasing number and strength of speculators constantly press for means to gratify the perennial desire to get wealth without effort. Many are asking for legal authority to banks to do business with inadequate capital. Depositors who have little capital except their capacity as guessers continually want accommodation. Bankers want to bank on any assets except coin and speculators will not be satisfied until they get a currency as elastic as their greed is insatiable.

When bankers, speculators and politicians seem to be trying to find a way by which banks can accommodate everybody, at all times, without the use of reason and moderation in the business of banking, it is time to re-examine the fundamentals of monetary science, to see what basis there may be for such expectations. When everybody is trying to believe that over-speculation and conversion of liquid capital into fixed capital can be made to go on safely forever, by legislation or intervention of government, it is time to find out how far common sense and sagacity in business can be supplemented by conjuring with money or creating a new automatic currency machine.

New York, Dec. 22, 1902.

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MONEY AND CREDIT.

CHAPTER I.

INTRODUCTION.

SECTION 1.—*Primitive Trade.*—It has been well said that science found man emerging from the dim obscurity of a brute-like existence engaged in a fierce and endless struggle for the means of existence. Later he took "part in this struggle not only against his fellows, but in company with them, against other social groups." Then he grew more and more social and formed clans and organized tribal groups.—Kidd, "Social Evolution," 18.

The primitive group, whether a family, a clan, a horde, a tribe, or a village community, developed activities out of which grew religious, political and economic institutions. All these were controlled by the group. The individual continued, as before, to hunt his own sustenance, but custom dictated the division of the surplus provisions.

It is a very common rule among primitive peo-

ples that a hunter killing a large animal must share it among his group fellows. There are many primitive customs for the sharing of the spoils of the chase among those participating therein and their relatives. Bücher gives us a very vivid notion of the customary control of such matters: "As to sustenance almost a community of goods prevails between members of the same primitive tribes. It is looked upon as theft if a head of cattle is slaughtered and not shared with one's neighbors, or if one is eating and neglects to invite a passer-by. Any one can enter a hut at will and demand food, and he is never refused. Whole communities, if a poor harvest befall, visit their neighbors and look to them for temporary support."—"Industrial Evolution," 61.

"For articles of use and implements, there exists the universal custom of loaning, which really assumes the character of a duty. Thus within the tribe, where all households produce similar commodities, and in case of need assist each other, and where surplus stores can only be utilized for consumption, there is no occasion for direct barter from establishment to establishment."

SECTION 2.—*Mutual Gifts.*—As the primitive group was self-sustaining and originated in the family and always partook of the nature of a family, it was natural that transfers of goods from one to another individual were presents. From members to the chief, it could hardly have been otherwise. Between related groups goods exchanged were undoubtedly presents. And between unrelated groups presents of hospitality and propitiation must have been most natural.

Spencer says that "barter began not with a distinct intention of giving one thing for another thing equivalent in value, but it began by making a present and receiving a present in return."—"Sociology," Sec. 562. Traces and survivals of this primitive custom are found in the coffee and cigarettes offered by shopkeepers in the East to intending purchasers, in the gifts preceding or following transactions there and elsewhere, and in the giving of backshish to bind a bargain, always and universally practiced in the Orient.

Giddings thinks that "the first step in peaceful exchange is the giving of presents, an act which grows directly out of hostilities. It is one of the most widely prevalent customs of savage communities. The horde or tribe that dreads to encounter its hostile neighbor in actual combat seeks to propitiate it by sending presents of those things that a successful enemy would seize. The transition from this form of propitiation to exchange for its own sake is easy, but the fiction of 'present giving' is long retained."—"Principles of Sociology," 279.

Cunningham (1 "Western Civilization," 26) says that the transactions of the Egyptians of the Middle Empire in their maritime expeditions "may be best described as one of mutual gifts, the amount given in such cases depending partly on the real or assumed status of the giver and receiver respectively, and not merely on the marketable value of the things." The Pharaohs had a pretty regular system of mutual gifts with surrounding tribes and nations, including the kings of the Hittites, of Assyria and of Babylon. "The transactions between Hiram and Solomon are

perhaps best described as mutual gifts. It is not easy to say how far they had a commercial or how far they had a political character." (Cunningham, 1 W. C., 50.) The gifts received by the Egyptian kings, especially those received in their campaigns, were recorded by them as tribute, and in those times it is hard to "distinguish mutual gifts or tribute from commerce."

Giddings then properly emphasizes the importance of propitiatory presents in the development of trade. And he no doubt fairly represents a common phase of tribal trading when he says that "if the transaction is thought to be one of some importance, ambassadors are sent with the goods. The negotiations that then take place are but a disguised combat. The representatives of the stronger party get the best of the bargain. Their barter is but partly trade and partly plunder. The barter of the weaker party is partly trade and partly tribute."—"Principles of Sociology," 280.

The first form of giving between individuals is naturally the gift of hospitality, which is in addition to the refreshments provided by the same universal duty of hospitality. Bücher's description is graphic: "From tribe to tribe there prevail rules of hospitality which recur with tolerable similarity among all primitive peoples. The stranger, on arriving, receives a present, which, after a certain interval he reciprocates, and at his departure still another present is handed to him. On both sides wishes may be expressed with regard to these gifts. In this way it is possible to obtain things required or desired, and success is more

assured inasmuch as neither party is absolved from the obligations of hospitality until the other is satisfied with the presents."—"Industrial Evolution," 62. This writer further says that the duty of giving in hospitality is frequently carried to such extremes as to demoralize the participants and become a source of extortion.

SECTION 3.—*Trading Unseen.*—In the transition from "present giving" to exchanging, "articles which a community is willing to part with are taken to some spot on the border of its territory and are left there in the expectation that they will be taken and other articles will be left in their place."—Giddings, "Principles of Sociology," 280.

In "The Races of Men," at page 270, Denike tells us that primitive commerce is not infrequently conducted in such a manner that the treating parties do not see each other. This method, no doubt, grew out of the fact that primitive peoples regarded strangers and even neighbors as enemies, and preferred to trust their honesty rather than brave the passions aroused by personal contact.

Herodotus says of the trade beyond the pillars of Hercules in Africa, "the Carthaginians disembark their cargo, return to their ships and make a great smoke. The inhabitants come and leave gold near the goods. If there is sufficient left, the Carthaginians carry it off, if not, they go on board again and the natives add to the gold. They do not touch the cargo until the gold has been removed."

In Russian America the stranger began by de-

positing his goods on the bank, then withdrawing. The Indian afterwards came and placed by the side of the first deposit what he thought a fair exchange and then went away. The stranger then came back and carried off the Indian's goods, if they seemed to him of sufficient value; if not, he simply withdrew again and waited until more was added. If they did not come to an agreement, each took back his goods.—Letourneau, "Property," 346. By the same authority there was this manner of trading in New Mexico between the Spanish soldiers of the Presidios and the Indians. Along the road leading from Chihuahua to Santa Fé, the Indians, when inclined to trade, erected little crosses on which they hung a leathern pouch with a piece of venison, then at the foot of each cross they deposited buffalo hides to be exchanged for victuals. The soldiers took the skins and in return left at the foot of the cross some salt meat.

According to Humboldt, cited by Denike, at the beginning of this century, the modern Mexicans traded with savage tribes wandering on their northern frontier in this manner. The barterers did not see each other. The goods were fastened to posts devoted to this use and then left. The purchaser came for them, replacing them by objects having an equal value.

Denike says that it is thus that the Sakai still traffic with the Malays, the Veddahs with the Singhalese. Bücher says that "the method by which the Veddah is able to procure his arrow points, which he does not make himself, is interesting. He betakes himself under cover of night

to the dwelling of a Singhalese smith and places in front of it a leaf to which the desired shape is given. To this he adds a present of some kind, wild honey, the skin of an animal or something similar. During one of the following nights he returns and expects to find the object ordered finished. If he is satisfied he will deposit another special gift. The smiths never refuse to execute the orders at once. If they do they may be certain at the next opportunity to be made the target for an arrow. Moreover, their labor is abundantly rewarded by what the Veddah gives in return." Scarcely less interesting is the statement that a "primitive pigmy race, the Batuas, when the fruit is ripe, break into the fields of the negroes, steal bananas, tubers and corn, and leave behind an equivalent in meat."—"Industrial Evolution," 72.

SECTION 4.—*Trading by Tribes.*—"The only exchange known to primitive peoples is exchange from tribe to tribe. This is due to the unequal distribution of the gifts of nature and to the varying development of industrial technique among the different tribes. As between the members of the same tribe no regular exchange from one household to another takes place. Nor can it arise since that vocational division of the population is lacking which alone can give rise to an enduring interdependence of households."—Bücher, 60.

Many tribes depend on making these exchanges, and they are regularly made in established markets. Nearly every tribe has its special industry. The market places are neutral grounds, and

usually the traders are not subject to attack by hostile tribesmen. This industry is not carried on by a particular class of workers, but by each household, and does not include primary articles of subsistence.

In his book on "Property," Letourneau gives instances of tribal trading. "In Chili the chief warns his subjects by sound of trumpet when the merchants arrive. The Indians who are thus summoned, hasten to divide the goods among themselves. Later on, when the merchants wish to depart, there is a fresh summons and then each purchaser brings an article in exchange."

"The Nubians of our day draw up in battle array, opposite each other, then between the two bands exchanges are made by a few individuals."

"Among themselves the Redskins act similarly, but as individuals and under the chief's protection. The caciques and warriors of two tribes begin by exchanging presents, then they trade from wigwam to wigwam, sending in the goods for sale, the goods being returned or else some equivalent."

Tyler gives an account of Australian savages who carried green stones used for making hatchets, hundreds of miles to receive in return from other tribes such products as ochre for painting their bodies. The presents were given and received at a gathering of the visited tribe, and there was a general sense on each side that the gifts were to be fair exchanges or there was grumbling and quarreling.

In many tribes of Africa and Oceanica the chief does the trading for the tribe, or has the first

chance at the goods brought in, or must be given a percentage on all transactions.

During the stone age, flint, obsidian and other hard cleaving stones, were scattered broadcast over the whole world from comparatively few quarries, without doubt, by mutual gifts between tribes. The distribution of stone implements by peoples not far enough advanced to have developed individual merchants is nothing short of marvelous.

"The North American Indians were inveterate traders. Shells and shell ornaments which must have been taken there from the shores of the Gulf of Mexico have been found in Wisconsin. Red pipe stone ornaments and pipes that could only have come from Minnesota have been found in New Jersey. Shell beads that were brought from the Pacific coast have been found east of the Alleghanies. Copper weapons and implements made in the Lake Superior region have been found in several Eastern States."—Giddings, "Principles of Sociology," 279.

Section 5.—*Barter.*—"Among many primitive peoples peculiar customs have been preserved which clearly illustrate the transition from presents to exchange." The change was gradual, even if we can say that it was ever completed before the general use of money. It is hard to characterize barter as anything but the giving of one thing for another. When we swop one thing for another, language forbids us to say that we have sold the one for the other commodity. And until we can say that we buy and sell things, there is little

difference whether we call the system of exchanges actually made a mutual giving or barter.

Barter between individuals, as distinguished from tribal trading, probably grew up in the earliest centralized countries, like Egypt and Chaldea, in which cities attained considerable size and civilization. "Where the population concentrates in towns there may come into being an active market trade in the necessaries of life, as is seen in classic antiquity and in many negro countries of to-day. In fact, even the carrying on of industry and trade as a vocation is to a certain extent possible."—Bücher, 109. The growth of large cities concentrates individuals drawn away from the primitive domestic groups so that their sustenance must be provided for otherwise. In such cities also arises a class requiring luxuries beyond the normal product of the primitive group even where the wealthy citizen retains his connection with his tribe or family association.

Phœnician trade is not known in any detail, but it was at first largely a dealing with savages in the way of barter, hardly differing from a mutual giving. In Phœnicia the government neither traded extensively nor sought to retain any monopoly of the profits of trade. On the contrary, private enterprise seems to have been more untrammeled in Tyre and Sidon than anywhere else before the nineteenth century. Their imports were for the first time not intended entirely for consumption within the country, but to be exchanged for the profits to be derived from the exchange. Raw materials were brought in, manufactured and sent out by this ancient com-

mercial people as was never again done until by Englishmen after thirty centuries.

The leading objects of the trade of the Phœnicians were first gold and then silver, and it is plain that these metals, after becoming the most desired commodities, were used for the special purpose of furthering trade in other commodities. Gold and silver thus grew to be very much of a medium of exchange, being bartered more and more extensively until they gradually assumed something like their present position in all commercial transactions.

Commerce appears to have attained a very high development in Babylon, considering its great antiquity. There barter reached its greatest perfection. So well was the use of the precious metals known, that most things were valued, and contracts written, in terms of gold and silver, and contracts were more generally negotiable than in most modern countries.

But in Babylon, as well as in Egypt, silver and gold were sold by weight, and a piece was more often pledged than changed. Wages and the hire of slaves were reckoned on the basis of rations. Workmen were "eaters of rations." Rent was part of the produce of the land. Interest was the use or equal to the use of the thing by which the debt was secured. The use of the thing mortgaged paid the interest on the sum for which it was security, whether the thing mortgaged was house, land, a slave, a mule, sheep or cattle. These are the marks of a natural or barter economy.

Section 6.—*Money Economy.*—We cannot but

think that the markets of the large cities of Egypt, and especially those of Chaldea, Phœnicia and Persia, must have early outgrown the barter which still reigned in country districts. The records of Great Babylon are beginning to give us a picture of a city life, intimately connected with country life indeed, still pulsating with a business that, if barter, is straining at the boundaries and assuming a cast very like a money economy.

The Phœnicians may have begun to pay interest for loans rather than take the use or produce of the article pledged. Tradition has it that retail trade was first practiced by the Lydians. They may have been shopkeepers rather than merchants, like the Phœnicians. The Greeks certainly were shopkeepers. There were markets in all Greek cities, and such a use of coin as required the presence of money changers in every market place.

Whether gold and silver was first coined in Lydia or Greece, by Crœsus or Pheidon of Argos, coinage first became important among the Greek city states. From the sixth century B. C., the common people among the Hellenes used coins in everyday transaction. Half of the workmen of Athens are said to have been free and working for wages. The small farmers throughout Hellas, and there were some such, worked to supply the markets, and depended upon the markets for a larger proportion of their necessaries than the same class among any earlier people.

What we may call money economy, therefore, was first developed among the Greeks. An illus-

tration of the new power of money and trade is afforded by the fact that the laws of Solon took political power from the hands of the heads of families that had become aristocratic, and gave it to the rich, whether of the old patricians or risen by trade from the lower classes. And after that time a class founded on wealth, tended to supplant the ancient nobility in all cities, even in Rome itself.

Wars broke up groups and scattered individuals. Cities concentrated these individuals and put them in a position to require the materials for their support from others with whom they had no connection. The condition of these fugitives necessitated exchanges which could only be made by the use of a regular medium of exchange. Out of these conditions grew individual mobility, and, whether for good or evil, liberty and money developed together.

One of the main benefits of liberty and a money economy consists in the opportunity it offers to the individual to better his condition in life, to rise above the class in which he was born, in short, to distinguish himself from his fellows and transmit this distinction to his children. Men of earlier nations than the Greeks, with slight exceptions, had been entirely controlled by caste, status or inherited conditions. The individual born into a family group remained a member thereof, and was governed by the oldest male unless he himself happened to succeed to the position of power. Where family power was consolidated by growth into tribes and nations, none of the con-

trol of individuals was lost, but many sunk into the worse thraldom of slavery.

Whether or not such liberty as the Greeks developed was the result of their money economy, a man could not be free while he was bound to render to others customary perpetual payments in kind and in services. These made men slaves, or more properly serfs, and freedom never did exist until they were discontinued, whether in Hellas or modern Europe. Only when wages were paid in money could the workman have free time, freedom to stop working, to choose his occupation and to change his residence.

Payments in money generally practiced, made it possible for the individual to support himself and live as he chose, rather than depend upon his family or tribe and submit to their control of his personal conduct. Prices and markets not only evaluated commodities, but labor, talents and the individual himself.

Notwithstanding the attention which is given in literature to the early history of trade and markets, we must agree with Bücher that "it cannot be too strongly emphasized that neither among the peoples of ancient times nor in the early Middle Ages were the articles of daily use the subjects of regular exchange;" and that primitive trade, even as far as the end of the manorial system, say until after the discovery of America, "only affects the surface of the independent household economy and does not affect the inner structure of economic life. The labor of each separate household (group) continues to receive its impulse and direction from the wants of its own

members and must itself produce what it can for the satisfaction of these wants."

SECTION 7.—*Position of Money in Economics.*—In the economic system as now developed, money is only part of the mechanism of production. Production comprises the operations by which desirable things are made and brought within the sphere of consumption. Consumption is the end and object of production, its complement in economics.

Money, as such, is not a good in itself. Exchange is not an object in itself. Even production is not pursued for itself. The real co-ordinate function of both money and exchange, must be constantly kept in mind in order to arrive at correct conclusions in regard to either. We must not, as we are prone to do, mistake a part for the whole, and attribute an importance to money, which really belongs, in part, to the other machinery of production.

It is not correct to speak of the prosperity of an age or country as entirely due to an approved monetary system, although want of prosperity and even disaster may be the consequences of bad currency.

The monetary system as developed, is, however, a great factor in civilization, comparable in importance, to the system of division of labor, to labor saving machinery, and to the system of voluntary association in industry.

Money has had the longest and most important history of any of the divisions of economics. The use of money was the first great economic achievement.

The use of money has facilitated the growth of division of occupations and led directly to the credit system which rendered possible the division of labor which resulted in the system of competition or automatic co-operation which took the place of the system of involuntary co-operation which was the basis of the primitive group systems which once controlled all mankind.

If we view economics historically we find it a part of the system of the general association of the human race. All history, whether religious, political or economic, is but a record of human association. Human progress is but the growth of association.

The great problems of economic history concern the form of association practiced, and the question of the future is, what will be the form that will be taken by future business association? Probably, therefore, the most fruitful treatment of economics would regard it as a phase of association, and in this view, money would historically and logically furnish the introduction to economic science.

CHAPTER II.

COINED MONEY.

SECTION 8.—*The Medium of Exchange.*—The desire for ornament was early developed in the human breast, and we find that the most primitive tribes have used mere ornaments almost universally to exchange for other commodities. Ornamental shells, like cowries and wampum, have been so extensively exchanged as to have materially aided the trade of modern commercial nations with the savages of Africa and America.

Hunting tribes frequently use skins with which to make exchanges. And among pastoral tribes domestic animals became generally current.

The products of agriculture have seldom been much used as currency, probably because primitive tribes do not generally trade such products.

In the practice of pure barter there always arises a faster circulation of relatively important articles of exchange. Travellers are seldom at a loss, among the most primitive tribes, to find some commodity which seems to be used for currency. Throughout history and among savage tribes, the most common and important commodity exchanged, comes to be received when it

is not wanted for itself, to be held and exchanged again for something that may be desired for use at some future time. Thus, also trade and mercantile exchanges were developed and things not wanted for use, nor for exchange for things prospectively wanted, were received and exchanged for the profits of the exchanges.

This currency of an article constitutes it a medium of exchange. This is the first function of money.

We may define a medium of exchange to be anything which is commonly received and given in exchange for other commodities. When we wish to speak of a medium of exchange simply, or of the function of anything as medium of exchange, we may use the word currency. Everything at any time serving as medium of exchange, may, as to such function, be conveniently called the currency.

SECTION 9.—*The Common Denominator of Prices.*—In "Justice," at section 69, Mr. Spencer deduces from his evidence that "exchange may not unfitly be regarded as a mutual cancelling of gifts. For whereas barter is not universally understood among the lowest tribes, the making of presents is universally understood. And where the making of presents becomes habitual there grows up the conception that equivalent presents should be made in return." The idea of gratuity dropped out of the constant exchange of presents through the growth of the feeling that equivalents should be given. As trade developed through the phases we have enumerated in the introduction, the notion of equivalent values manifested itself more

and more strongly until it was of economic importance in the barter of the Phœnicians and Babylonians. Coincidently with the rise of the feeling of value, grew the use of something to denominate or measure values.

Along with the development of a medium of exchange the other more important articles acquired prices expressed in terms of the article used as such medium. These prices became settled as the average of transactions actually made, and became rigorous and stable by custom. Many examples of these prices, from the simplest containing the price of but one commodity, to those schedules covering most of the commodities bartered in primitive periods, have come down to us, and some of them are fairly exact in their comparison of values.

When the progressive nations from Spain to India passed through the pastoral stage, cattle constituted the chief wealth of the people, and therefore, the common medium of exchange; and they also became used as a mere price marker or denominator of prices, in transactions when other things were exchanged. Slaves were exchanged for sheep according to their prices in cattle, just as much as though the slaves were first sold for cows with which sheep were afterwards purchased. In this way barter was made more exact and subject to price. When the schedule of ratios between the denominator commodity and each of the other commodities generally dealt in, was once learned, it constituted a large part of the trading science of barter. In the case of trading slaves for sheep, was involved an example in proportion,

a comparison of the ratios of slaves to oxen and of oxen to sheep, according to the rule of three.

When oxen were taken for slaves when sheep were really wanted but no sheep were to be had, it was because oxen constituted the medium of exchange; but when the owner of the sheep was present, and the exchange was made according to the prices of slaves and sheep in oxen, it was because cattle constituted the common denominator of prices; the second function of money.

A common denominator of prices, is a commodity, with the value of which, commodities exchanged, are compared, whether they are exchanged directly for the denominator, or for each other, without the actual interposition of the denominator except for purposes of comparison.

SECTION 10.—*The Unit of Money.*—In the schedules of barter price, one unit of the article used as money was usually compared with a certain number or quantity of the other commodities. Prices tended to become expressed as the value of one unit of the commodity which was used as medium of exchange. One beaver skin had the value of different numbers or quantities of other commodities. One cow was worth a certain number of sheep, but a slave was worth several cows.

Most of the single things or units of the commodities used as mediums of exchange, were inconvenient because variable in value or indivisible. Skins varied in size and quality. Cows varied in value from other cows and from bullocks, and all changed in value with age. It was very inexact to state values in such units. And, in actual trades, the units could not be divided to correspond with

different articles and quantities purchased. This was one of the chief reasons why many of the earlier kinds of money failed to correct the want of coincident desires among men which was the great hindrance to barter.

When gold and silver became money, a good unit was obtainable. Each metal could always be divided into any certain weight which was always of the same value, and that quantity could itself be reduced by fractions indefinitely.

The unit of money is a great convenience and is essential in accounts, and in all considerable transactions, just as the unit of number is essential to arithmetical calculations, and as units of weight, measure and time, are essential to all computations or comparisons of these qualities. A monetary unit is essential to the extended use of money either as medium of exchange or common denominator of prices.

The necessity of having a good monetary unit has had a great influence in the rise and fall of the different kinds of currencies; but it is only a numerical or arithmetical convenience; and that the unit is a certain coin does not make that, or the material of which it is composed, either the common denominator of prices or the medium of exchange.

In England the monetary unit, the pound, is so large that it is coined only in gold. In the United States, France and Germany, the units, the dollar, franc and mark, are so small in value that they have to be coined in silver, though it is not the common denominator of prices. And in Spain the unit has been so small that it was not

coined at all, and was therefore not a medium of exchange.

When the currency was cattle, the unit was one ox or cow. When gold succeeded cattle as currency, an amount of gold equal in value to an ox or cow became the monetary unit. After the breaking up of the Roman Empire, the units were reconstructed, and a pound or livre of silver was made the unit by Charlemagne, though never coined as a single coin. The present English pound is the debased representative of this unit. In France the livre of silver was reduced until the livre coin was renamed franc by Napoleon.

SECTION 11.—*The Price Ratio* should now be closely considered. The value of one thing may be expressed in terms of any other thing. But when it becomes customary to express the value of every other commodity in terms of that used as money, values so stated are called prices. The prices in the barter period were ratios of value of a certain number or quantity of the medium compared with a certain number or quantity of the other commodities exchanged.

It is not strictly correct to say of money or the medium of exchange, that it is a measure of values. If one thing is valued twice as highly as another, the value of the first, in terms of the second, is as 2 to 1 (2:1) or is two of the second, two divided by one ($\frac{2}{1}$). The value of the second, in terms of the first, is as 1 to 2 (1:2), or one-half of the first, one divided by two ($\frac{1}{2}$). If the comparison were not so simple, we might be forced to say, for example, that the value of one thing to another is as 2 to 3, that is, the second is $\frac{3}{2}$ of the

first, or $\frac{3}{5}$ in terms of the first, and the first is $\frac{5}{3}$ of the second, or $\frac{2}{3}$ in terms of the second. When we thus get the value of the ratio, we divide by the second, and express it with the second term as the denominator of the resulting fraction, which is the value of the ratio or the price desired.

Now, if we take a single kind of property, money, and compare all others with it, we shall have one term of the ratios always the same. And if this term is made the denominator, the denominators of the fractions which express prices will always be the same. In other words, it will be a denominator common to all the price fractions, a common denominator. We may then very strictly call this property, with which we compare all others, the common denominator of prices.

This name denominator is not only very exact, but carries exactly the right idea or inference. The word denominator means to name. It gives the name to fractions. In price fractions, the denominator gives the name to prices, and the common denominator, being money, prices are expressed in money. And money being expressed in the name of its unit, dollars for example, prices are expressed in dollars. They are named dollars. The unit gives the name of prices.

The arithmetical use of the term denominator is also exactly followed. The denominator, no matter how obscured in use, is an actual denominator, and an actual common denominator, such as we all had to find with more or less difficulty, very soon after we got to common or vulgar fractions in our arithmetic.

By the use of the monetary unit, the common

denominator of price becomes unity or one, and no actual division has to be made or fraction used to work out the ratio and find the price. The price is already given by the first term of the ratio or the numerator of the fraction, expressed in terms of the monetary unit as common denominator.

When the price ratio is stated, or the price of a commodity is determined, money is used as a common denominator of prices. When the price is acted upon and the commodity is bought or sold and exchanged for money, the money is used as a medium of exchange.

The explanation of the function of money as common denominator of prices, is made thus precise because it is the most important in the whole subject. It is not only a correct statement of the present working of this function of money, but shows the true historical facts of its beginnings and development. The difficulty and confusion arising in the subject of money come chiefly through a failure to separate this function as common denominator, from that as medium of exchange, in connection with each point studied; and through a confusion of the two functions, which are different and more or less incompatible, though they were developed together and are necessarily bound together for certain purposes.

SECTION 12.—*Gold as a Primitive Commodity.* —We find no trace of the knowledge of any metal excepting gold which seems to have been sometimes used for ornaments in the "Stone Age"; says Sir John Lubbock at the outset of his standard work "Prehistoric Times." He adds: "It is probable that gold was the metal which first at-

tracted the attention of man; it is found in many rivers, and by its bright color would certainly attract even the rudest savages, who are known to be very fond of personal decoration."

Modern antiquarian research is continually showing that a remarkable amount of gold was possessed in the remotest times in most ancient nations. Professor Flinders Petrie reports some important results of his explorations among the royal tombs of the earliest Egyptian dynasties during the winter of 1900-1. "We have now found beautifully wrought jewelry and gold work, minutely engraved ivories and toilet objects of Menes and his successor, fashioned more than 6,500 years ago. * * * Of Zer, the successor of Menes, it is astonishing to find the forearm of his queen still in its wrappings with four splendid bracelets intact. One is a series of figures of the royal hawk perched on the tomb. There are thirteen figures chased in gold alternating with fourteen in carved turquoise. The second bracelet is composed of spiral beads of gold and lazuli, in three groups. The third bracelet has four groups in the shape of an hour-glass with beads of amethyst between gold with concoctions of gold and turquoise. The fourth has a centerpiece of gold copied from the rosette seed with amethyst and turquoise beads and bands and braided gold wire."

The fifth king of the second dynasty was apparently Khase Khemai, "whose tomb has the royal sceptre formed with cylinders of sard held together by a copper rod in axis and with gold bands at intervals. There are also seven stone vases

with gold covers fastened with twisted gold wire, two gold bracelets, twenty copper dishes, dozens of copper models, tools, copper axes, fruit knives, and a perfect dish of diorite." All these things attest the then high antiquity of the art of the goldsmith.

A treasury of golden ornaments has been found in the lowest stratum of débris left by the successive habitations at Hisserlik. This indicates that in the third millennium before Christ, when the inhabitants of Troy lived in the stone age and when bronze was still a rarity, the art of the goldsmith had very far advanced.

During the second thousand years before our era, Mycenæ was a rich and strong city. "Within the royal tombs cut vertically into the rock, remaining untouched by the hand of man since the last corpses were placed in them, some of the faces of the men were covered with gold masks, and the heads of the women were decked with gold diadems. The ornaments which have been found in the royal tombs show that the queens of Mycenæ appeared in glittering gold array." From the sepulchres of Mycenæ alone about one hundred pounds Troy of the metal have been disinterred.

"The lords of Amvelæ, which was the queen of the Læonian vale before the rise of Greek Sparta, hollowed out for themselves a tomb" in which "among other costly treasures, were found the most precious of all the works of Mycenæn art that have yet been drawn forth from the earth—two golden cups on which a metal worker of matchless skill had wrought vivid scenes of the snaring and capturing of wild bulls."

Gold has been found in the form of "plates and pearls beneath twenty metres of volcanic débris in the Cyclatic islands Thera and Therapia." And we may also note that in the Milesian colony of Panticapeaum, near Kertch, in the Ural Mountains, graves have been opened containing corpses shining like images, in a complete clothing of gold leaf and equipped with ample supplies of golden vessels and ornaments.

It seems that primitive and backward countries have always produced gold first of all the metals. The Spanish originally found gold in the hands of the natives of America, though the same countries afterwards proved to be greater producers of silver. Cortez is said to have found in the royal palace of Mexico an almost incredible weight of gold and only an insignificant value in silver and silver vessels. The Portuguese also secured great quantities of gold in the East Indies, Japan and China, through their earliest commerce in those parts which afterwards became great absorbers of silver.

"The absence of silver from the prehistoric remains of Attica is especially noteworthy, for that country in historical times derived immense supplies of silver from the mines of Laurium." Professor Petrie is confirmed in placing the zenith of the Mycenæan civilization as early as 1,200 B. C. by the scarcity of silver as compared with gold in its remains.

Throughout the habitat of the cow and ox in the ancient world, river gold was very evenly distributed. Professor Ridgeway, in "The Origin of Metallic Currency and Weight Standards," de-

tails the extensive gold washings throughout the greater part of Europe and Asia, mostly in places long since worked out and forgotten as sources of the yellow metal. He clearly shows that this beautiful metal, easily found in the sounds of flowing streams, was the first metal universally obtained and used by our ancestors. It became in the course of time as common a subject of barter as cattle, and its value was of course expressed in terms of ox-unit.

SECTION 13.—*Gold in Story* is a most fascinating theme. The fable of the gold digging ants arose from the very productive gold mines of India, together with its rivers, particularly the Ganges, flowing with gold.

Orientals, especially the Phœnicians, first stirred the *auri sacra fames,* the accursed greed for gold in the Greek mind. The Greek *chrosos,* gold, is a word borrowed from the Semites, and is closely related to the Hebrew *charuz,* though taken immediately from the Phœnician.

"The restless treasure seekers from Tyre were indeed, as the Greco-Semitic term metal intimates, the original subterranean explorers of the Balkan peninsula. As early probably as the fifteenth century before Christ, they digged out ribs of gold on the islands of Thasos and Siphnos and on the Thracian mainland at Mount Pangænum."

Herodotus records with wonder that the Phœnicians turned an entire mountain topsy turvy in Thasos, for gold. And "the fables of the Golden Fleece and of Arimaspian wars with gold guarding

griffins prove the hold won by the precious bane over the popular imagination."

Asia Minor was traditionaly the chief prehistoric supply of gold, but the native mines were neglected after the Phœnicians were driven from the scene. Midas, whose touch turned everything to gold, "was a typical king in a land where the mountains were gold granulated and the rivers ran over sands of gold."

It was from Phrygia that Pelops was traditionally reported to have brought the treasures which made Mycenæ the golden city of the Achæan world. Homer's "golden" Mycenæ and "treasury of Priam" seem almost historic in the light of the excavations, something of whose results we have above indicated.

Colchis and Lydia, as well as Phrygia, were distinguished for their abundance of gold. Some derive the tradition of the Golden Fleece from the gold washings of Colchis instead of from Thrace.

"We hear that the Argonauts went up the Black Sea to its eastern end in their search for the Golden Fleece. Strabo has well explained this story as arising from the practice in that region of collecting gold dust by placing fleeces across the beds of the mountain torrents to catch the particles of gold brought down by the stream."—Ridgeway, "Early Age of Greece," 171.

The riches, not only of Midas, but of Gyges and Crœsus, were celebrated. The gold mines of the mountains Tmolus and Siphylus and the gold sand of the Pactolus, were the subjects of myth and story. Last of all we may refer to the riches of Solomon in the gold of Ophir, which inspired

in the Hebrew writers their richest imagery, and gives a very definite impression of the early position of gold in human affairs.

SECTION 14.—*Gold as a Medium of Exchange.* —Before the coinage of gold, it became commonly used as the medium of exchange along with oxen, and in regions where that medium did not prevail. The gold was found pure in the convenient form of dust, and Professor Ridgeway claims that its weight standard was the grain of wheat, that it was the first metal or product thus weighed, or weighed at all, and that the grain of wheat (and of barley) has been the basis of most systems of weights.

Gold dust has been used as a medium of exchange contained in quills as in the Far East and in ancient Mexico. It is used as circulating medium among the tribes of Sumatra, Borneo and other East Indian islands, and Ashanti and the Gold Coast, where gold abounds. By the use of the scales, gold dust has always been a natural and convenient medium of exchange, and has been much used in all mining camps like those of Brazil, California, Australia, Alaska and elsewhere.

Paton, in his "Early History of Syria and Palestine," at page 163, referring to the great "Day of Midian," for which victory the Israelites offered to make Gideon king, says: "He declined the honor and asked merely that the golden rings taken from the Midianites might be granted him. These people were traders, and like the modern Bedowin, carried their wealth on their persons. Seventy pounds of gold were gathered from the fallen, and out of this, Gideon, in acknowledg-

ment of the divine aid, made an ephod or golden covered image of Yahweh, which he set up in Ophrah, his native town."

Gold rings were much used as ornaments in the earliest times. These rings were very widely used, practically as coins, especially in Egypt, although they were most often weighed when used as a medium of exchange. Ridgeway, both in "Origin of Metallic Currency and Weight Standards" and in "Early Age of Greece," finds that all of the great numbers of rings, spirals, disks, bracelets and other ornaments derived from the Mycenæan Age, were made upon the same weight standard, that of the ox-unit, 130 grains, approximately.

Keane, the great ethnologist, thinks he finds an "instance of a true metal currency among the American aborigines." "Among the arts of the Chibchas or Muyscas of Colombia was that of the goldsmith, in which they surpassed all other peoples of the New World. The precious metal was even said to be minted in the shape of disks" many of which, "together with other gold objects from the same plateau have enriched the European cabinets."—"Man, Past and Present," 420.

The Roman Republic seems to be a puzzling exception to the general and early use of gold by prosperous nations. We are told, however, on the authority of Mommsen, that, although uncoined in the second and first centuries before Christ, from one-half to four-fifths of the treasure in the Roman treasury consisted of gold ingots, which were protected by law the same as the silver coins, from adulteration. Before the time of Cæsar gold had already supplanted silver as the money

of the wholesale and foreign trade and in large operations generally.

Del Mar asserts that gold had assumed a sacred character as early as the very ancient Hindu code, and that this character was very widely extended in the ancient world. He claims that the coinage of gold was preserved by the "Sacred Myth of Gold" in sacerdotal hands through Grecian times, except during the democratic era, and in Rome after the republican era. He argues at great length and with much plausibility that the coinage of gold by Julius Cæsar and the succeeding Roman emperors, was attached to their pontifical rather than to their imperial office. This sacred myth of gold remained attached to the Roman name, and until the fall of Constantinople, the otherwise long effete eastern emperors, almost solely exercised the prerogative of coining gold for the Christian world. By the same authority we are constrained to believe that the Moslem coinages of gold were regarded as sacred to the caliphs rather than belonging to the emirs or sovereigns, until the decadence of the caliphate. Certain it is that gold has been the subject of human adoration above everything else from the beginnings of recorded time even until the present.

Section 15.—*Gold as Common Denominator.*—By an exhaustive comparison of ancient coinages and price schedules, Professor Ridgeway makes it appear that the price of a cow was about 130 grains of gold wherever cattle were raised in early times, and that this amount was the approximate weight of all the first gold coins, for example, the dharana of ancient India, the Hebrew and

Phœnician shekels, the Persian daric and the Grecian and Macedonian staters. He says the most common decoration of these coins was the ox's picture. The gold rings used as currency in ancient Mycenæ and Egypt conformed to this standard, as well as the early Italian, Gaulish and German gold units.

Aside from this ingenious and probable theory, we know that in Egypt, Babylon, and especially in Phœnicia, gold first, and then silver, grew to be almost universally used as a common denominator of value in their extensive barter commerce. As far as we can judge, the use of gold as denominator, in those three leading commercial states of the highest antiquity, was nearly as important as its use as medium of exchange. This is shown especially by the contracts upon clay found in Chaldea, which would almost lead us to think Great Babylon had anticipated the Greeks in money economy.

From the first and most primitive exchanges, from presents, whether of propitiation or of hospitality, dictated by hostility or friendliness, through the exchanges made roughly by unseen negotiators and by tribal ambassadors, through the trade of enterprising Phœnician voyagers in savage countries and scarcely less savage Aryan Europe, up to the apparently civilized trade of Babylon, we find a growing exactness in the comparison of values. And we can easily see that this exactness corresponded with the rise of improved common denominators of value or price, and especially of the gold metallic denominator.

Before the appearance of silver, gold had taken

the leading place as common denominator of prices having displaced every other medium of exchange. The development of a common denominator of prices which had the quality of being a convenient medium of exchange, did more than we, at this time, can easily imagine, to facilitate and stimulate exchanges.

SECTION 16.—*Ancient Silver Coinage.*—At page 3 of "Prehistoric Times," Sir John Lubbock says, "silver does not appear to have been discovered until long after gold, and was apparently preceded by both copper and tin, as it is rarely if ever found in tumuli of the Bronze Age." And at page 16, Sir John remarks that in the Iron Age "the knowledge of metallurgy was more advanced, silver and lead were in use, letters had been invented, coins had been struck."

It is interesting to note that at the discovery of America, the North American Indians were "in an age of copper. Silver is the only other metal which has been found in the ancient tumuli, and that but in very small quantities. It occurs sparingly in a native form with the copper of Lake Superior, whence, in all probability, it was derived. It does not appear to have ever been smelted."—"Prehistoric Times," page 253.

Professor Ridgeway says: "It is obvious that if a metal is found in such a condition that it can be immediately wrought into various forms of ornament and utility, such a metal is likely to have been employed at a much earlier period than one which is rarely, if ever, found in a native condition. Now, silver is a metal which is rarely found pure, and considerable metallurgical skill

is needed to render it fit for use. On the other hand, gold and copper are both found in a pure state. We may then, on that ground alone, infer that mankind was acquainted with gold and copper before they had yet learned the art of working silver ore. * * * That silver came under man's notice at a later time than either gold or copper can be put beyond doubt by historical evidence."

As to how silver worked in as common denominator of prices we may refer to page 259 of the work of Professor Ridgeway. He says: "We saw above that there is every reason to believe that when silver first became known, they esteemed it as highly as gold, if not more so. It would naturally, therefore, be weighed on the same standard as gold. This would continue until, in the course of years a time came when the relation between gold and silver had become fairly fixed. We know that in the beginning of the fifth century B. C. gold was to silver as 13 to 1 (or rather 13.3 to 1). * * * Now, for ordinary purposes of exchange, this relation would be extremely inconvenient, and the more accurate relation of 13.3 to 1 would be still more so. It became thus desirable to fix some separate standard for silver by which a convenient number, such as ten of silver ingots would be equal to the gold ingot of the ox-unit standard." And very numerous instances show that this was widely done, the first silver coins having a weight of about 168 grains.

Some very early inscriptions seem to indicate that silver was then known to the Egyptians and valued by them, perhaps on account of its high

labor cost, more highly than any other metal. Very ancient Babylonian records refer to silver money. Armenia at one time furnished such a supply of the white metal that Homer regarded it as the birthplace of silver.

After the Phœnicians had exploited the Eastern gold mines, extended their commerce to the west, and became the most skillful metallurgists of the age, they found and developed the silver lodes of Spain, which proved veritable bonanzas. They met with ready exchanges for their product. There was comparatively little silver found in either Africa or Asia, and the Phœnicians made immense profits in bringing the silver into the East, where it was rare, compared with gold. The world-wide commerce of Tyre, Sidon and Carthage, stimulated by the profits on silver soon made it overshadow gold as the actual medium of exchange along the shores of the Mediterranean, although Persia retained its preference for gold. The impulse was furthered by the development of the silver mines of Laurion by the Athenians, who succeeded to the commercial empire of the Phœnicians.

It is evident that as soon as silver became so abundant that its price was less than one-tenth that of gold, it became the most convenient medium of exchange in ages of comparatively small exchanges. Silver, in the Greek age, came into its proper sphere in the retail exchanges of mankind, and for three thousand years was most often spoken of as money.

Section 17.—*Bimetalism.*—The earliest currency problem was how to use gold and silver coin-

ages together. After stating the connection between the earlier units of gold and silver, Professor Ridgeway approaches the question of the changes in the weights of the silver coins at various places and at different times. Upon a fairly wide state of facts, he concluded "that from the first to the last, the Greek communities were engaged in an endless quest after bimetalism. * * * that whilst the gold unit never varies in any part of Hellas until a late epoch, the silver coins exhibit differences not merely between one district and another, but even between one period and another in the same city or state. There is incontrovertible evidence to prove that the same trouble was caused by the fluctuation in the relative value of gold and silver as arises in modern times." Even Del Mar admits that the Greek gold coins remained constant while the silver ones had to be adjusted thereto.

Mr. W. A. Shaw in his late "History of Commerce," makes a revelation of the state of the currency in the Middle Ages that is truly startling. Literally thousands of times, the ratio between gold and silver was changed. In France in a single century, the ratio was changed "more than one hundred and fifty times, and with a roughness quite inconceivable to the modern mind." In 1303 the ratio was 10:26; in 1305, 15:90; in 1308, 14:46; in 1310, 15:64; in 1311, 19:55, and in 1313, 14:37. In 1359 the price of the mark of silver in livres was changed twenty-two times in France, all the way from seven to one hundred and two, then dropping back to eleven in the space of ten days.

In 1622, in England, business was practically paralyzed for want of silver money with which to do the retail business of the people. Money only was exported, and cloth, the staple manufacture of the country, was unsold in the "halls" or warehouses of the manufacturing districts because of want of "correspondence in the value of the coins now used" with those of neighboring states.

In Germany the year 1600 "commenced that extraordinary movement of monetary depreciation and panic which is known as the *'Kipper and Wipper'* period. In great part, the extraordinary acuteness of the panic was due to the internal monetary confusion in Germany, but that internal confusion simply ministered to the export of all good specie and metal, and in the end it became simply a monetary corner. The movement began by a coinage of the lower denominations of money on a different and depreciated footing or basis." The table showing the rise of the Reichsthaler from one florin, eight kreutzers, in 1582, to two florins, eight kreutzers, in June, 1620; and then, by twenty-five changes, to ten florins, in March, 1622, and back to one florin, thirty kreutzers, in April, 1623, "marks the acuteness of the monetary panic and crisis of 1631, the central time of the commercial ruin induced by the disorder of the *Kipper and Wipper Zeit.*" Out of this disorder arose the Bank of Hamburg as an exchange bank to mitigate the commercial distress.

Less acute monetary crises constantly occurred throughout Europe, and history is full of the complaints of the people to the authorities, of the scarcity and badness of money, first of one metal

then of the other. Laws were enacted in every country against coin exportation. Merchants were drawn and quartered in London for this crime. English laws provided that importers must bring a certain proportion of the value of their cargo in bullion. Repeated proclamation changed the valuation of coins to prevent their exportation and induce their importation. Changes were blindly made in the coinages to prevent the exportation of needed coin, and craftily to encourage its importation. All these things were to no purpose. And they were not done so much upon the theory that coin was all wealth, as to retain money with which to do business. This was the monetary problem of the Middle Ages. But during all these centuries, nobody knew that bimetalism was the real cause of the perennial troubles with the money.

SECTION 18.—*Debasement of Coinages* was the common method in the Middle Ages, and down to the nineteenth century, of adjusting or trying to adjust, the legal to the commercial ratio between the two money metals. Debasement has undoubtedly been perpetrated by rulers for the purpose of making the profits to be derived from the difference between the old contents of coins and the diminished contents of the new coins purporting to be the same, and bearing the same name; but the bimetallic see-saw has induced most of the changes. Although there were occasional returns, the general tendency was downward.

When Charlemagne fixed the monetary unit at the pound of silver for his European empire, he only marked a point from which debasement

started. In France the pound or livre of silver was reduced until it was represented by a coin worth twenty cents, perhaps one seventy-eighth part of the original value. In Germany the mark or pound became nearly as attenuated. In England, the pound of silver, at first coined into twenty shillings, was finally made into sixty-two shillings, of which twenty still make the pound of the coinage.

When a coinage of either metal contained more metal, at its commercial value than its proportion according to the legal ratio between the metals, that coinage was melted or exported and disappeared. The metal in such a coinage was undervalued in the coinage. It was worth more elsewhere and for other purposes. To restore and keep it in circulation, the further coinage of that metal was lightened. As the debasement of a coinage was obviously to the advantage of the revenue of the government, the tendency has been to go to such an extreme in lightening a coinage that the metal contained in the new coins was overvalued, and the other metal undervalued in turn, and itself needing debasement to establish a parity again; thus producing a natural series of debasements.

To prevent the exportation of extra good and heavy coins, they were reduced. To get the best of other nations, a crafty ruler would so lighten the coins of the metal needed in his coinage as to value it somewhat higher than the others, and thus bring it to his mint. Profit and policy united to run to destruction. It is no wonder then that the Spanish maravedi "from being the original gold

coin of the very highest denomination, came to be a silver coin, and then a billon coin of the very lowest denomination," of which it would take over fifteen hundred to make the original maravedi. This sort of thing rendered the coinage of Europe for a thousand years, a delusion and snare to every one but the money changers, who made great fortunes with almost inconceivable rapidity even in the commercial torpidity of the Middle Ages.

The bimetallic reductions of the coinages were accomplished, (1) by reducing the amount of metal in a coin, (2) by increasing the amount of alloy in a coin—true debasement—either openly or surreptitiously, or (3) by proclaiming a reduced legal price for a coin, either foreign or domestic.

Moneyage was a shilling paid every three years by each hearth to induce the king not to debase the coinage.—2 "Stubbs' Constitutional History of England," 562-3. It appears from the historians of France and of other countries that the people so severely felt the effect of these debasements that they voluntarily paid a tax to the sovereign to induce him not to exercise his right in this respect and this tax was called *monetagium*. "Coins of the Realm," 120.

SECTION 19.—*Depreciation of Coinages* was the next problem in the currency. It was largely attributable to the exportations caused by bimetalism. The new and good coins of an undervalued metal went into the melting pot and to foreign countries. The coins remaining in use were worn and chipped so as to become lighter and lighter. The metallic contents of these worn and muti-

lated coins became so overvalued, that these light coins frequently formed a residue which remained in circulation in spite of successive changes in coinage ratios. Sometimes a reduction of a coinage was made to correspond with the average weight of a depreciated coinage.

The banks of Venice and Amsterdam were established with a principal object to take in worn and mutilated coins and issue therefor currency based upon uniform new coins. Other banks after them were largely charged with the same employment.

All the governments of Europe have repeatedly been brought face to face with a currency so worn, clipped, punched, plundered and generally mutilated as to be almost useless in exchange, and a source of loss even amounting to robbery of the common people. The English government has several times called in a depreciated coinage and issued therefor a new coinage without reduction, dividing the loss and expense with the holders of the old coins at the time of recoinage. Most governments now retire their worn and mutilated coins without loss to their holders.

SECTION 20.—*Gresham's Law.*—We have seen that coins overvalued in bimetallic coinages, coins debased in contents, and coins worn and mutiated by use, remain in circulation, while perfect, undebased and undervalued coins are driven from circulation and disappear. It may be added that paper money, especially when it becomes depreciated, drives coin from circulation.

The law governing this matter was first effectively stated by Sir Thomas Gresham.

Henry Dunning Macleod says that Oresme, about 1366 A. D., Copernicus in 1526, and Gresham in the last part of the same century, reported independently to their respective sovereigns in more or less extended treatises, the law which has since borne the name of the latter, because the works of the first two had been buried in forgetfulness until republished in 1864.

It is one of the most important principles in monetary science. It may be stated thus: Cheap money drives dearer from circulation; or, bad money drives away good. In other words, the cheapest commodity possible will be used as money, while money of greater value for the same denomination, will be treated as a commodity, for the purpose of realizing as a profit the difference in value. Men sell the dearest money, as they sell any commodity, in the highest market, and for the same reason. The immutable laws of exchange govern the medium of exchange as well as the commodities exchanged.

Money changers are the agents by which the best coins or coinages are made to disappear and not perform their intended functions. Practically all the operations of the money changers come under the law of Gresham.

From his stock of domestic coin the dealer will select the perfect new coins of full weight for the jeweller who purchases by weight, and the lightest for the customer needing money, to whom it is all the same as long as his light coins are accepted and circulated as money.

Not only are the best coins collected by the dealer for manufacture in his own country, but

he collects for export all the coins which are worth more in foreign countries than in his own, either for purposes of recoinage, or manufacture, or of paying foreign debts. When all the coins of one metal become proportionally worth more in foreign countries than coins of the other metal the undervalued coinage will be exported. The ratio of the metals change by the fluctuations of the world's market rather than by the legal enactment of a single country. No ratio between the money metals in one country which differs from that in other countries, enough to pay freight, can stand in the face of the foreign money exchanges.

SECTION 21.—*Evolution of the Single Standard.*—As Gresham's law has operated to compel the solution of the problems presented by the debasement and depreciation of currencies, so it has wrought the solution of the question of the use of two money metals, although many people seem to fail to recognize the result accomplished.

It is understood that much of the traditional profits of the eastern trade anciently accrued through the advantage taken by western traders of the wide difference that existed between the ratios of the values of the two money metals in the different regions.

Del Mar claims that the Roman emperor-pontiffs held the ratio at 12 to 1 from Julius Cæsar to the fall of Constantinople, and that for part of that time the Moslem emir-caliphs held a ratio of $6\frac{1}{2}$ to 1 throughout their dominions. He claims that the superstitious reverence for the gold coinage contributed to the apparent steadiness of these widely differing ratios in contiguous regions.

When the spell was broken and the Roman dominion was broken up, monetary chaos reigned. Wars of ratios prevailed. Kings, princes, counts, barons and bishops coined at their own different ratios. In this dark period, the practicability of using two metals simultaneously as money was tried in every conceivable fashion and found impossible. No economic experiment was ever more thoroughly conducted.

Shaw says, page 160, "with the close of the seventeenth century the advantage of the process of altering the denomination of the coinage, of diminishing the contents and reducing the standard of fineness, began to be impugned on theoretic grounds, and in the course of the eighteenth century the process itself fell into disuse. Since that time no mint or legislative change such as we have hitherto described was made on the expressed value or contents of any European coinage. * * * The legislator from the middle of the fourteenth century had attempted two things by this mechanism—(1) to follow the general rise of prices and meet it by reducing the contents of the coins in such proportion as he thought fit; (2) to prevent any disastrous outflow of the precious metals by altering the ratio."

In 1717 England changed her ratio for the last time, coining the guinea at twenty-one shillings, making the ratio about $15\frac{1}{2}$ to 1.

In 1785 France adopted the definite ratio of $15\frac{1}{2}$ to 1, which proved near the commercial ratio for about ninety years, although undue exportations of gold or silver took place according as the ratio ranged above or below the legal one, and disturbed

trade and the currency considerably at intervals.

In 1816 England adopted the gold standard, reduced the contents of the silver coins by about six per cent., thus rendering them unprofitable to melt or export. Such silver was, at the same time, made legal tender only for small amounts. The Latin Union was formed in 1865 to effectuate the lately adopted policy of the countries involved, by which the minor silver coins, of two francs or less, were made subsidiary by being reduced in fineness. The Union restricted the minting of the five franc piece in 1877, making practically a gold standard. As late as 1847 Holland adopted silver as the single standard of her money; but she suspended the coinage of silver in 1872, and in 1875 adopted the gold standard.

The experience of England with gold has been satisfactory to her, and has undoubtedly contributed to her unrivalled commercial prosperity among other nations. In 1873 Germany followed England's example on the establishment of a uniform currency for the new German Empire, after a rational consideration of historical teachings and monetary science. In 1873, also, the United States decided that, upon the resumption of specie payments in 1879, no more silver dollars at the old ratio should be coined. The Scandinavian Union, Austria, Russia, Japan, and most of the minor countries, even of Spanish America, have followed the prevailing example; and it may be said that the commercial world is upon a single gold monetary standard, legally as well as actually.

The silver coinage in the Latin Union, the United States and in other gold standard coun-

tries, so far as coined at the full value according to the ratios formerly established between gold and silver, is kept at a parity with gold by being retained as legal tender for debts, by being freely exchangeable for gold, and by the fact that such silver coinage is limited in amount.

The nations not upon a gold standard are confessedly upon a single silver standard.

Any ratio between gold and silver as fixed in coinage is really an attempt to fix their prices in terms of each other. If there is any fact plainly taught in history, it is that neither law nor custom can permanently fix the prices of any commodity in progressive communities. Customary prices prevailed, we know not how rigidly nor how long, but they finally gave way to modern progress. All governments, for at least a thousand years, by repeated laws, tried to control the prices of nearly all commodities. The most instructive, because the best preserved series of such laws, are those of England, which literally number hundreds. The lesson of the control of the ratios of the coinages has been no less sharp and decisive than that of the other price ratios.

It is the modern expansion of commerce and the rapid perfection of intercommunication which has made it impossible that any people, no matter how backward or ignorant, can stand the drain caused by their losses in taking any coin at a valuation greatly in excess of that placed upon it by their eager trade competitors.

It is useless to refer to anything but results. There is not a ratio between gold and silver in-

tact to-day. All history cannot be falsified nor its results changed.

SECTION 22.—*Change of Medium Changes Denominator.*—When, as happened several times in Europe, a coinage became worn and clipped so that light coins became the entire medium actually used in exchange, and new and heavy coins would not circulate, prices went up so that traders would not lose anything if they had to use the coin they received, in buying stock in foreign countries. Thus prices were really determined by the worst of the bad coinage. When also the banks of Venice and Amsterdam gave out money according to the full weight of the worn coinages they took in, the bank currencies commanded a premium.

When coinage is debased, the debased coins become the sole medium actually used, foreign exchanges taking away all the coins of the old weight, and domestic prices, in the new lightened coinage, go higher, though the new coins are nominally of the same denomination.

When a paper currency depreciates, prices go up in the same measure that the currency falls in price compared with coin, and if the paper currency appreciates with better prospects of redemption in coin, prices decline, as in the United States between 1864 and 1879, when specie payments were resumed.

A general rise in prices has always been observable, when, by a change in the commercial ratio between the value of the two money metals, the medium of exchange was reduced. Prices advanced throughout Europe with every change of ratio brought about by a reduction in the coinage

of either metal. This rise in prices is one of the principal economic facts in middle and modern European history, and was largely caused by lowering the monetary denominations.

From all this it may be inferred, when one medium of exchange prevails over another through the law that cheap money drives dear from circulation; that the cheap or bad money becomes the sole denominator of prices; that the denominator of prices appertains to the medium of exchange; and that a denominator of prices cannot tolerate a rival, but must be composed of a single metal or monetary standard.

SECTION 23.—*Denominator Must Be Single.*—There seems also to be a logical necessity that there should be but one denominator of prices. For, as prices are ratios between the denominator chosen and the rest of the commodities exchanged, it could but produce confusion and uncertainty to have the common term of the ratios, a double or composite quantity. Strictly, there could be no single ratio between one quantity and two other workable, especially in the case of so complex and difficult a matter as the prices of commodities. It is almost impossible to compute specifically what the cost of the simplest articles is, and in practice, the price is arrived at by the intuition of the market, through an infinite higgling. That the practical decision shall be as just and exact as possible, simplicity and singleness of standard of comparison are absolutely indispensable.

That gold developed the function of common denominator so early, and has always held it in commercial ages and countries, is a most potent

reason for believing it the fittest for the purpose of price denominator. That its value has dominated the other metal which has proved useful as a subsidiary medium of exchange, further proves its availability as a common denominator. It is a case of the survival of the fittest.

SECTION 24.—*Silver as Medium of Exchange.* —As actual intermediaries in business transactions, gold and silver now sustain entirely different relations than as common denominators of prices. Gold has never actually circulated extensively as coin much larger nor much smaller than the ancient ox-unit of about 130 grains. Coins much smaller than that are physically inconvenient to handle and liable to be lost on account of their smallness. Coins much larger have never proved successful. The American five dollar gold piece, the English sovereign, the French twenty franc piece and the German twenty mark piece, are all very close to the ox-unit and are the most used gold pieces; the half of some of these coins are the smallest gold coins much used, and their doubles, the largest.

Now, it is apparent that for the ordinary retail transactions of most peoples these coins are too valuable. In all countries except the United States and Great Britain and her colonies, the ordinary weekly wages of most laborers do not equal five dollars, and such people could not be paid in coins of that denomination, nor use them in their purchases without first getting them changed. In all other countries except those of Western Europe, wages are so low, being from fifty cents to two dollars and fifty cents a week,

that the common people cannot use the gold coinage as a medium of exchange.

In the English-speaking countries where the gold coinage might be used in many transactions, it is not used because paper money, credit instruments, and book credits have largely taken its place. In the United States and Canada paper money is preferred down to the denomination of one dollar, so that the actual use of coin as a medium of exchange is largely confined to the minor silver and base metal coinages.

In all except the English communities, silver is necessarily the actual medium of retail exchanges. The largest silver coins much in use are those of about the size of the dollar, or about 200 grains, somewhat larger than the prevailing silver coins of the ancient world, 168 grains, and which is about as large as it is convenient to have coins made. This dollar coinage is about as large in value as the majority of mankind can use in their daily business.

The coins which are most used as a medium of the exchanges of the world, are silver coins of less size and value than the dollar. Silver, therefore, constitutes much the most active part of the metallic medium of exchange.

SECTION 25.—*Subsidiary Coinage.*—Macleod says that in 1691, in a posthumous work, Sir William Petty pointed out that one metal only should be adopted as the standard unit and other metals should be issued as subsidiary to the standard unit. The same doctrine was advocated with great force and at great length by Locke in 1693 and also by Harris in the middle of the last century, and was

finally embodied in the great masterpiece on the subject, Lord Liverpool's "Coins of the Realm," published in 1805.

When light coins remained in circulation because they were too far under the coinage standard to be either melted or exported, they became practically a subsidiary coinage. Silver coinage frequently got into this condition during the Middle Ages.

Between 1695 and 1699 the silver of England was restored by recoinage, but eighteen years afterwards the silver coinage had returned to its original depreciated condition because the good new coins were melted or deported as soon as issued. The gold in the coinage was over-rated as compared with silver and remained in circulation because it was not profitable to export. As silver bullion was under-rated in the coinage, as compared with gold, none was brought to the mint after the government ceased the coinage at a loss, of silver coins, which immediately disappeared from circulation. The good gold coins and the worn silver coins circulated side by side, apparently in contradiction to the law of Gresham, but really in strict conformity therewith.

With the good gold circulation, the worn silver served fairly well as subsidiary coinage, and was undisturbed so long that the astute Lord Liverpool recognized the true law of the situation and recommended that the condition be improved and stereotyped. In 1816, therefore, Great Britain reduced the amount of metal in the silver coins by six per cent., closed the mint to silver coinage on private account, coined silver according to the needs of

trade and restricted its legal tender to the amounts conveniently receivable in small coins.

After the adoption of the 16 to 1 ratio in 1834 the conditions in the United States were similar to those in Great Britain after 1717, silver was no longer coined, and in 1854 the coins under the dollar in value, were reduced in weight so that they would circulate in the country where they were minted and greatly needed.

The fall in the value of silver reversed the conditions of 1834 and made the dollars coined at the rate of 16 to 1, after 1878, practically subsidiary coins, and the adoption of the gold standard in 1900 has but emphasized this distinction.

For all the silver coinage, the government of the United States buys silver bullion at its market value and coins it in amounts suitable to the demands of the public, having abandoned the unsuccessful policy of coining a certain amount in dollars every month to help sustain the price of silver.

Not containing full value in property, the subsidiary coinage, both actual and virtual, is based partly upon the credit of the issuing government, and is sustained at par by its convenience in the exchanges for which it is intended, its receivability by the government, its legal tender quality so far as it goes, and its restricted amount.

In the nature of seigniorage, and sometimes called by that name, are the profits of the government on the subsidiary coinage. Since the great fall in the price of silver, this profit has been quite large, and probably sufficient to cover the mint expenses of the entire coinage, together with what-

ever losses accrue from wear and deterioration. As this profit is something which the government cannot avoid, and which will probably increase, it would seem to justify the government in assuming all the mechanical expenses of the circulation.

By the subsidiary nature of its coinage, silver is made a good medium of retail exchanges, while it is deprived of its power to impair the usefulness of gold as common denominator of prices, and is a money without any function as denominator of prices, and with a limited though important function as medium of exchange.

In the field it covers, the subsidiary coinage is exclusive of all other currency. This specialization of function is one of the most valuable features of the highly developed modern monetary system. This expedient which now appears so simple, besides its positive advantages, is a cure for most of the ills which have afflicted all former systems of coined money.

SECTION 26.—*Restricted Coinage.*—Since the fall in silver values, most countries have had to limit the free coinage of silver at the legal ratios established when silver was more nearly equal to gold in value, there seeming to be no desire to follow the price of silver by wider ratios corresponding to the silver market. Although more silver is in use in Germany, France and the United States than ever, it can no longer be taken to the mint and freely coined for private account. The Latin Union has, temporarily, at least, suspended the coining of silver altogether. This may be called a restricted coinage, although, if the government buys silver bullion, and coins it at the old ratio,

denying the privilege of such coinage upon private account, the coinage is really subsidiary.

This has been called the "limping standard," although it is in reality a single gold standard, the silver leg never reaching to the ground at all, and if it did, it would be because the gold leg was not only lame, but paralyzed.

SECTION 27.—*Token Coinage.*—For the lesser coins necessary in making retail exchanges, even silver is so precious as to make them inconveniently small in size. Such coins, therefore, are made out of some base metal, as copper, nickel or some mixture of several metals. And as coins of even the smallest denominations containing these metals at a full valuation, would be inconveniently large, they have usually been made of a convenient size, though containing but a small fraction of their face value in metal.

This coinage is, in all essential principles, the same as the subsidiary coinage, but with a much greater proportional debasement from full values.

The token coinage may be said to be based upon, as well as justified by, its convenience. Neither this, nor the subsidiary coinage, seriously tests the principles of monetary credit and redemption, upon which they are in part, founded.

It would conduce to theoretical perfection if, when any future readjustment of the coinage is made, the silver contents of the dollar and its fractions might be equalized, and that of the smaller coins enlarged, while the five cent piece might be made of silver with a rather large portion of alloy to give it size.

SECTION 28.—*Seigniorage* is strictly the per-

centage charged by a government for the cost of minting bullion for private persons.

Coinage may be said to be free, however, when any one may have any amount of bullion coined at any time by paying the established seigniorage. This is the case in this country as regards gold. Great Britain coins gold without making any charge, but its coinage is no more unlimited than that of the United States.

When the government buys bullion or metal and coins it into tokens, subsidiary or restricted coinages, its profit is sometimes called seigniorage, although it were better to call it profit of coinage. As we have intimated, this necessary profit is, and should be, used in keeping the currency in perfect mechanical condition, freely renewing worn and soiled currency of whatever kind whenever necessary.

SECTION 29.—*Coin as a Storehouse of Value.* —Professor Bücher says that in primitive "domestic economy money is wealth stored up in chest and box as a kind of assurance fund," and "plays a chief part as a store of value," "in the formation of a treasure," and "for storing up wealth."—"Industrial Evolution," 110, 142.

There is no question but that gold and silver were used as a convenient means of keeping and storing wealth, especially in the form of ornaments, long before they were coined. The quills of gold dust and rings of gold and other ornaments comprised the wealth of ancient peoples just as silver and gold ornaments now serve the same purpose in India and the East generally.

Although the fleeting value of eggs even now

serve farmers in their small purchases at country stores, no perishable commodity has ever been much used as money, and the most imperishable elements in nature, gold and silver, have finally developed exclusive money functions. It took the qualities of a storehouse of value, constantly before the people, to encourage trade in the infancy of commerce. Without them we can hardly imagine that commerce could have grown, much less that production, involving long periods of time preliminary to a future exchange, could have developed. Faith that value would always be found in the coinage, allowed and encouraged the growth of commerce and production.

Although money is not ordinarily held long enough to make its quality as storehouse of value seem of essential importance, it is probable that much more now depends upon faith in the continuing safety of the value stored in gold than is generally admitted. It is certainly this quality which gives coin its strength as a reserve fund to sustain credit and credit currencies. Bank reserves and government hoards are literally storehouses of value.

This, the third distinct function of money, one which, of minor importance, in itself, is an essential quality in the two more important functions.

SECTION 30.—*The Standard of Deferred Payments* is the fourth function of money. This is similar to the third function. A perfect storehouse of value would be a perfect standard of deferred payments.

When credit arose, and loaning took the place of hoarding, and debts were contracted in the buy-

ing and selling of goods, then arose the question of the variation in the value of the money in which the loans and debts were to be ultimately repaid.

Although debts may be made payable in any commodity, they are, in fact, measured and made payable in money, which, therefore, becomes the standard of deferred payments. That gold is the fittest for this purpose, of all things yet discovered, has contributed to its survival as money.

It has been thought that the double standard of gold and silver combined, is more steady in value, and, therefore, a better standard of deferred payments than a single standard. But our investigation of the operation of Gresham's law in the case of bimetalism shows that, instead of the variations in one metal counterbalancing those in the other, they are added together. Either metal is a better standard, therefore, than both attempted to be used in a combination that only allows the cheapest to remain operative.

SECTION 31.—*Qualities of Money Metals.*—By comparison of the qualities of the precious metals which have developed as the only money metals, and the qualities of the other commodities sometimes used as money but discarded, we may infer that the use of the precious metals prevailed because they were:

1, Highly valuable, so as to be

2, portable, or easily transported;

3, not liable to rapid deterioration, and

4, of easy recognition; qualities necessary to a good medium of exchange;

5, of uniform quality throughout, and,

6, easily divisible; qualities necessary to a good common denominator of prices;

7, durable, and

8, stable in value; qualities specially necessary to a storehouse of value and standard of deferred payments.

This classification of the qualities of the precious metals according to the functions of money is not rigorous. Most of the qualities are necessary in a measure, directly or indirectly, to each monetary function. The quality of steadiness of value, for instance, is essential to a medium of exchange or common denominator of prices, as well as to the other functions, though not so exclusively essential.

We can now hardly imagine a good money lacking in any of the qualities above enumerated. And to the fact that gold possesses each and all of these qualities to a greater degree than silver, is due the increasing supremacy of gold in all monetary systems.

SECTION 32.—*Stability in the Value of Gold and Silver* is due to the fact that the annual supply is small compared with the quantity already in existence. Both metals being practically indestructible, they accumulate for all time, subject only to the wear and accidental loss of the most carefully handled of commodities.

The great difference in the annual supply of gold since the discovery of America has had so little effect upon its value that it is a matter of dispute among the best informed, whether its value has or has not changed with the supply.

No other commodity approaches gold in stead-

iness of value. Even silver, through late enormously increased and cheapened production, combined with a decreasing prospective demand for coinage, has fallen in price nearly one-half compared with gold.

Whether gold has lately appreciated in value compared with commodities, or they have fallen through cheapened production, the prospective supply of gold seems to be ample for any possible demand for the arts as well as for coinage and reserve purposes.

The real or metaphorical worship of gold is so blind and fervid that anything but the most unexampled increase in its production can have but little effect in lessening its value.

SECTION 33.—*Cost of Production,* in the case of the precious metals, has not so much effect upon their general value as in the case of other commodities, for the same reasons that supply and demand have less effect in producing minor fluctuations in their value. The great or small cost of each year's production has little effect upon the value of the metal, it being so small a part of the real contents of the market at any time.

So far as we can judge, the cost of the production of gold remains pretty steady. The great strikes of gold attract so many to seek it, who do not find it, that in the opinion of some authorities, its average cost exceeds its value. Then, too, gold is now mostly found in inaccessible, inhospitable regions, where its cost is enormous, though it is found apparently in great abundance.

The case of silver is quite different. It is found mostly in deep and almost inexhaustible mines.

While few of the ancient silver mines are completely exhausted, there have been continuous new discoveries of great and rich deposits. The rapid advance of mining metallurgical skill has added largely to the cheapness of the production of silver.

Between 1876 and 1892 the annual production of silver more than doubled, and the price fell to one-half the price in 1873, and still the cost of production allows as much silver to be mined as before that period.

Whether the cheapened cost, together with the increasing competition of the other white metals, tin, nickel and aluminum, entirely explains the fall in the price of silver, there seems to be as little prospect of a future improvement in its market in the arts as in coinage.

SECTION 34.—*The Definition of Money* may now be attempted. It is no doubt best described by an enumeration of its functions, as, that which is:

1, A medium of exchange;
2, a common denominator of prices;
3, a storehouse of value, and
4, a standard of deferred payments.

These functions have been so developed in combination, and must remain inseparable in the fundamental portion of the monetary structure.

Things without the other functions, may, as we shall hereafter see, serve as mediums of exchange, if properly connected with money of complete functions. But a mere circulating medium and nothing more, should not be called money without qualification. We should be careful to avoid call-

ing any kind of credit instrument, money, no matter how much used as a medium of exchange.

The fact is that the immutable law of evolution has practically made gold money, and money gold. Gold is the sole money of international commerce. It is the legal money of nearly all nations. And, at the present rate of conformity to this standard, but few years can elapse before it is the sole and universal money. Therefore we may say that the synonym of money is gold.

While silver has yet some standing as money, it cannot properly be called money without qualification. We may properly say silver money, but we do not have to say gold money. Gold, and no other thing, sustains all the functions of money. Gold is money as soon as it is taken from the earth, without smelting, without refining, without minting and without limitation..

Base metals may perform service as small mediums of exchange, silver a similar service in a larger way, both under government authority. We shall see that private credit instruments act as circulating mediums with varying approximations to monetary functions. And we shall also see that governmental paper currencies connect all these different things into a series of instruments which shade off from the pure and complete monetary instrument of evolution, into an instrument that may for once, and only momentarily, sustain any function in facilitating exchanges.

CHAPTER III.

CREDIT.

SECTION 35.—*Money Lending* has, of course, prevailed from the earliest accumulations of wealth in a trading community. Some investigators are inclined to see in the earliest records of systematic money lending the rise of a system of banking. The loaning of money certainly flourished in Babylon. Notes, contracts, deeds and mortgages were reduced to writing and were freely negotiated. The Egibi, or Egibi & Co., in the reign of Sennacherib, about 700 B. C., was an immense establishment that lasted through five generations and did a great business in money lending and something very like banking. Their great library of records of contracts on baked clay tablets preserves a vivid picture of the general course of business in great Babylon.

"The Phœnician merchants dealt largely in money and precious metals. Thus they were bankers and money lenders. * * * Nearly all the silver which was in circulation, and which was the common coin, was the product of the Phœnician mines. As the silversmiths of antiquity the Phœnician merchants were not only dealers in sil-

ver, but bankers as well, not merely as money changers, but as receivers of money, for which they paid interest, and which they invested in commercial enterprises."—Lee, "Historical Jurisprudence," 90.

SECTION 36.—*Money Changing* has arisen with the beginnings of civilization in all countries. Being itself a commodity, the currency was always subject to exchange like other commodities. Its acquired function as medium of exchange gave it additional importance as an exchangeable commodity, and materially added to its activity in exchange. Before coinage we may imagine that the use of gold in the form of dust and rings as a common medium of exchange, added to the business of dealers in gold and ornaments.

The first efforts at coinage were comparatively rude, and each new coin varied from the others in weight, making it profitable to cull out the heavy one for the jeweller, and sell the lighter ones to those wanting money, a practice that, with new and old coins has always had a controlling power in coinages.

As soon as the coinages were established in different countries, and were brought into contact in the commerce of Athens, Corinth and Rome, the business of money changers vastly increased. There was then added to the domestic trade the business of changing the more or less varying foreign coinages for each other, and for the domestic coinage, as well as a foreign and domestic trade in the individual variations between the coins of the foreign coinages, and a foreign trade in the variations in the domestic coinage.

Collins, in his "History, Law and Practice of Banking," at page 31, says that "the bank of Amsterdam was founded in 1609 with the principal object of remedying the disadvantage and inexpedience arising from the circulation of the clipped foreign coins which circulated amongst the merchants. Its business was to purchase all worn and clipped gold and silver coins at their bullion value and give credit for such value. On these transactions it charged a small commission, and the gold and silver purchased was recoined. There was a state enactment aimed at the evil of the defective coins, to the effect that all debts of 600 gulden (which was afterwards reduced to 300, equal to 25 guineas) should be paid in the money coined and issued by the bank."

The Bank of Venice also issued bank money for deposits of coins of varying bullion values. And this money, also under state supervision, became a substitute for coins which had become too variant to longer serve as a circulation medium.

Thus the Bank of Amsterdam, and, in this particular, the Bank of Venice, were rather public money changers than banking institutions.

We learn from the "History of Goldsmithing," by Lacroix and Séré, that the practice of exchanging moneys was of great importance in medieval France when coinages were numerous and variable. They say that commerce in money was soon added to exchange, and those who exercised it derived great riches therefrom. The business of exchanging moneys at the great fairs of Champagne was a sort of public office. According to the royal ordinance of 1327 the exchangers had to be chosen

and commissioned by the wardens of the fairs. The exchangers also engaged in banking transactions. The stalls where they were to be found were little boxes opening on the square or street, containing a table with a cover, a bench and scales. They were commissioned and the tables were rented or sold to them in perpetuity.

There are numerous examples in the thirteenth century of loans of money made by Champagnese exchangers to French and foreign merchants, and also of loans made by merchants to exchangers. In Champagne the money needed to execute the contracts of sale made conformably to the usages of the fairs, was deposited with the exchangers.

SECTION 37.—*Money Changers as Bankers.*—In Greece and Rome money changers and bankers were denoted by the same word, which was derived from the word for table, *trapezetæ* or *mensarii.* The "tables of the money changers" were set up throughout Greece in the market places and other public resorts. The money changers or bankers in Rome had their shops round the Forum in booths rented to them by the censors, and to become bankrupt was *foro cedere,* to quit the Forum. And, finally, an Italian word for table or bench, *banc,* has given us the name banker and bankrupt.

As to the Greek money changing bankers, we do not know that they did more than take deposits at one rate of interest and loan it at a higher, but some of them, for example, Pasion and Phormio, attained great wealth and distinction.

In Rome the money changers, as holders and dealers in money, were natural bankers. They (1) exchanged foreign coin for Roman at a small

commission; (2) received money to be paid at another place by drawing bills of exchange thereon, when bills became known from the Greeks; (3) kept money for persons without interest, subject to the depositor's check or *prescriptio;* (4) acted as agents in most money transactions, and (5) were present at all public auctions, registering the sales and taking payment from the purchasers.

Money changing in Sicily appears to date back to very early times. The Arabian geographer, Ibn Hawgiral, saw the money changers in full operation in Palermo in 977 A. D. From that period the word *bankerius* as synonymous with *campsor* or *cambiator* (money changer) has been in use in Sicily. In the fourteenth century the two professions of changer and banker were always united. The changers or bankers were subject to special regulations. They were public officials, and in their capacity as such, were required to certify free of charge, the weights of moneys. They made charges only on exchange transactions.

The oldest law relating to bankers appears in the customs of Palermo, and prohibits the sale of old moneys, except by the changers who are licensed to exchange, weigh and distribute a new coinage in the entire kingdom.

Private banking in Venice began as an adjunct of the business of the campsores or dealers in foreign moneys, and somewhere between 1270 and 1318, the money changers were becoming bankers.

The Lombards very early developed remarkably as money dealers and bankers. Their operations were particularly extensive and long continued in

France and England. The Jews also shared the business with the Italians throughout Europe.

Money changers' guilds were among the first recorded in all countries. The money changers formed one of the greater guilds in Florence, ranking with the cloth weavers and silk weavers among the earliest and greatest. Money changing was the business which was the chief source of wealth of the city. Banking was more flourishing there than in any other center at the opening of the thirteenth century.

SECTION 38.—*Goldsmiths as Bankers.*—Goldsmiths appear to have been among the earliest artificers of the human race. More ancient than those in writing, the records of mounds and tombs disclose the handiwork of this calling. Larousse (Dict.) says gold working has been held in honor in the remotest times. Lacroix and Séré tell us of the great importance of the goldsmith's trade in Gaul and ancient France. They mention one Eloi, who was a goldsmith before being minister of Dagobert I. of Gaul, and, although minister, remained goldsmith. In France in the fourteenth century, lay goldsmith work was entirely distinct from sacred. And among the four kinds of goldsmiths enumerated by John of Garland, money coiners are first mentioned. In the thirteenth century it is said that the exchangers who had the monopoly of the commerce in the precious metals in France, were compelled to defend it against the goldsmiths.

The business of banking was not introduced into England till the seventeenth century, when it began to be undertaken by goldsmiths in London,

who appear to have borrowed it from Holland. The process is quaintly described in an old pamphlet: "Much about the same time (the time of the civil commotion, 1648-1660) the goldsmiths (or new fashioned bankers) began to receive the rents of gentlemen's estates remitted to town, and to allow them, and others who put cash into their hands, some interest on it, if it remained but a single month in their hands, or even a lesser time. This was a great allurement for people to put money into their hands which would bear interest till the day they wanted it, and they could also draw it out by one hundred pounds or fifty pounds, &c. at a time, as they wanted it, with infinitely less trouble than if they had lent it out on either real or personal security. The consequence was that it quickly brought a great quantity of cash into their hands, so that the greatest of them was now enabled to supply Cromwell with money in advance on the revenues as his occasion required upon great advantage to themselves."

Primitive banking was evidently a mere natural extension of the business of money changing and dealing in bullion. It marks the beginning of the use of the credit which a continued and extensive dealing in money naturally gave the dealer. Such credit was availed of when the dealer used the money which he received on deposit and was bound to return to the depositor, the latter relying upon the ability of the banker to repay the amount when actually demanded.

A merchant attains a credit available for the receipt by him of commodities without paying for them, or for the borrowing of money with which to

pay for them. So the dealer in the commodity which is the medium of exchange develops, not only a credit which enables him to receive such commodity to be repaid in the future, without engaging to keep it all the time on hand any more than the merchant retains the goods received by him upon his credit.

That it was goldsmiths, workers in bullion, and then dealers therein, who were so important in the development of banking in England, emphasizes the connection between the money changer, the jeweller, the coinage, banking and credit generally. Every bit of recorded history upon the subject shows the influence of the trade in money and bullion on the coinage. The money changer has been a most persistent disturber of imperfect coinages, but has compelled the development of the present single standard coinages. He has also contributed to the great extension of the use of the coinage in banking and credit.

SECTION 39.—*Transfers on Bank Accounts* constitute one of the most simple banking functions. All banks, no matter how primitive, have probably afforded this convenience, although little record has been made of such obvious transactions.

Funds once deposited in the Bank of Venice could not be withdrawn, but were transferable upon the books at the pleasure of the owners. These bank credits were generally at a premium over the various clipped and worn coins which circulated. The writer of the article on the "Bank of Venice," in 6 Quarterly Journal of Economics, 311, seems to ascribe the same function to the private bankers of Venice. He says: "How early the con-

venience of making payments by transfers on the books of a banker was understood, there is nothing to show. But in 1584 the transfer of credit had long been an important means of payment in Venice. The convenience to be obtained by the use of credit did not arise from any such substitution of credit for money as should enable the community to dispense with any part of its stock of cash, but from the simple fact that the transfer in bank saved the necessity of counting coin and of manual delivery in every transaction. The creation of a credit without such deposit was deemed an abuse, but payments could be made by the transfer of the right of the depositor to demand, with such facility as to enable merchants to carry on dealings to an extent otherwise impossible."

With the large banks of Scotland, England and Australia, with many branches, transfers on the books are of very great importance, cancelling many debts in many localities. In the case of the Bank of France, whose branches cover all the departments of the republic, and which does the bulk of the banking business of Frenchmen, transfers on the books amount to a clearing of practically all the French banking debts. In countries with independent banks like Great Britain, and especially in a country of small banks like the United States, the great clearing house system is a much modified extension of the system of bank transfers and one of the most impressive of modern banking accomplishments.

Section 40.—*Deposit Banking.*—"The existence of a well defined banking system in Babylonia seems thoroughly attested. There are several

tablets of early date which refer to banking transactions in which the banker received sums of money as a custodian. * * * The parties named as receiving the deposit are known from other tablets to have been large money lenders. * * * It is simply a case of the deposit of money for which a receipt had been given, and the depositor now receives back his money and gives a receipt for it. A payment to a third party was often made by a draft upon a banker, whereby the latter was instructed to pay the amount of the draft from money deposited to the credit of the drawer." This was the beginning of the check system, and dates back to the earliest period of Babylonian history!

Mr. Courtney, in the Encyclopedia Britannica, says the bankers of Greece and Rome received money on deposit to be repaid on demands made by checks or orders at some stipulated period, sometimes paying interest on such deposits and sometimes not. Their profits arose from their lending the balance at their disposal at higher rates of interest than they allowed depositors.

A large number of bankers were established in Sicily in the thirteenth, fourteenth and fifteenth centuries, and in the fourteenth century the deposit system was introduced; indeed the most important office of the bankers, distinguishing them sharply from the money changers, was the reception of deposits of funds. Incidentally to their deposit business, the Sicilian bankers made transfers and issued certificates of deposit and call orders. The government and all classes deposited in the banks. The

banks employed the deposits in their own business, only taking care to keep on hand sufficient resources to cover withdrawals.

The bankers of the famous Italian cities early received deposits; in fact, the receipt of deposits has come to be the test of the true bank; and when the money changer or goldsmith attracted deposits, he became a banker.

It is not to be imagined that the credit that enabled a banker to attract deposits which he could loan out as his own, is the present limit of banking credit. We have many intimations that early bankers made loans without deposits, or to amounts exceeding their deposits.

By the modern English and American method, a bank loans, not its money, but its credit, and carries the amount to the deposit account of the borrower. The bank, in the course of its regular business, makes a loan to a depositor, taking his note, bill or collateral, but does not actually pay over the amount loaned in money, but passes the amount to the credit of the borrower as a deposit. The borrower's note or bill is paid by a charge against the borrower's account, which may have been strengthened by other paper deposited, or by paper in renewal carried to deposit account as before.

The imposing array of modern bank deposits are thus composed of very little cash, and are largely composed of the very loans made by the bank to its own depositors.

This is where the true creation of credit by banks appears, when they loan, not cash, but a credit written on their own ledgers. When a

banker has some capital in cash, and the confidence of the community, he may attract deposits of more cash and create deposits out of the loans he makes to a far greater amount than the cash capital and cash deposits combined. Thus the banker is a real dealer in credit and not a mere dealer in money, and he is, moreover, the creator of the credit in which he deals.

A money changer dealt with his own money. A banker loaning his cash deposits only, dealt in other people's money. But a modern banker deals in credit of his own creation, a substantial economic quantity which he swops for other people's credit, also something substantial.

Looking upon this phase of banking, and carried away by the sight, many theorists and even practical business men learn to think this credit structure can be built indefinitely high and wide, with little or no foundation. Examples all through modern history illustrate this tendency. Only lately has experience taught the practical limit of credit. Bankers understand this limit none too well; and the public, far from having knowledge of the true nature of credit, has very little appreciation of its real limitations. For these, the reader is referred to our subsequent sections on Redemption and Bank Reserves.

SECTION 41.—*Ancient Use of Deposits.*—Boecke says that trading with money deposited with them constituted the chief business of the Athenian bankers. That they sometimes employed capital of their own in this manner, indicated that they were merchants as well as bankers.

Besides the trade in the precious metals, the

bankers of Sicily did an important business in merchandise, especially in grain, and subsequently in silks, linens and woolens.

We are told that the Venetian bankers opened their banks and subjected themselves to the burden of being the cashiers for all the money in the market, in order to trade with it. Trade with the Levant, the western trade, corn, exchange, the accommodation of friends and the purchase of lands and houses, were the typical classes of a banker's investments in that age (Bank of Venice, 6 Quar. Journ. Econ. 311).

These bankers were largely the famous Venetian merchants of the period in all probability. The Italian bankers who collected the money which flowed from all the countries in Christendom to the *camera* or papal treasury, were generally known as the Pope's merchants. They did a large exchange business, and even participated in the trade in commodities which went to balance the exchange necessitated by the operations of the *camera*. The bankers of Florence, especially the Medici of the later period, appear to have been about as often spoken of as merchants, as bankers.

Jacques Coeur, of Lyons, was the first of the Middle Age merchants to attain continental, even world-wide, fame. He was able to finance Charles VII. of France, enabling him to recover Normandy, Gascony and Guienne. He was the most prominent figure in finance and banking of his time, and since his day the political power of the banking interest has been constantly felt.—2 Cunningham, "Western Civilization," 155. The Fuggers of Augsburg, who being weavers, accumulated

an enormous fortune, sufficient to materially help the great emperor Charles V., were merchants as well as bankers.

More than once the Venetian bankers were brought to a crisis through their trading with deposits. But their long periods of prosperity attest the solidity of Venetian commerce, perhaps, rather than the wisdom of Venetian bankers.

Mercantile adventure long continued to be the banker's natural employment of his funds. But when the bank of England was established in 1694, it was prohibited from engaging in any sort of commercial undertaking other than dealing in bills of exchange and gold and silver. And since then no important bank has done any business in the direct exchange of commodities.

SECTION 42.—*The Modern Use of Deposits* is also, perhaps, the most ancient, for, so far as we can now judge, Babylonian banking was purely loaning. And by all accounts, all ancient bankers were accustomed to loan their deposits to a large extent. That loans to individuals had some place in the Venetian banker's use of his deposits, is shown by an act of 1467, limiting to ten ducats the amount which could be lent to any person upon a single obligation.

The restrictions imposed by the Canon Law upon the reservation of interest impeded loans of this kind and probably hindered the growth of legitimate banking investments during the Middle Ages.

Traces of dealings in bills of exchange, or drafts of that nature, appear in Greek and Roman times, as well as in all later banking chronicles.

We read, too, that the specialty of the Sicilian bankers was really the purchase and sale of bills of exchange, a most complicated branch of business. The banker had to calculate the relative worth of Sicilian and foreign moneys, the higher value of the best money which determined the exchange rate, and, finally, the interest on capital. To illustrate the profits realized, it is sufficient to say that the gains made by a Sicilian banker from his drafts on a Naples banker, did not fall below thirteen per cent.

Modern deposit banking depends for its profits upon the use of its deposits and credit, discounting commercial paper. In England the whole procedure seems to be summed up in the phrase, discounting bills. Enormous, practically permanent, though somewhat varying loans, are there carried for merchants and manufacturers, comprising a large part of the commercial community, by a never ending series of bills continually being drawn, accepted and paid, each transaction leaving a goodly discount with the bank. The English treatises tell of this enormous business in such a way as to make one's head swim at its magnitude, while the mind reels at the idea of the permanent works of the kingdom, its wealth, and even its daily bread, depending upon thirty, sixty and ninety day paper bandied about Lombard and Threadneedle Streets.

In the United States more loans are made by banks on notes perhaps than on bills. In the larger cities, call loans are very extensively made on notes secured by collateral in the form of corporate stocks and bonds. These loans, as their

name indicates, may be terminated or called in at any time. The interest upon call loans is generally lower than on any other class of loans, but in times of stress, it may be the highest.

SECTION 43.—*Issue Banking.*—The origin of the practice of banks to issue notes is involved in much obscurity. But from the information we have, as well as from general principles, we may infer that receivers of deposits always gave some sort of certificate of the fact of such deposits or a note promising repayment.

The great banks of Venice, Amsterdam and Hamburg issued their bank money in the form of notes in amounts to suit depositors, even if not in regular denominations.

The bankers of Sicily and Naples early began to issue certificates of deposits and several other forms of paper, which circulated as currency, and were probably made in amounts to suit depositors.

It is understood that the early Sicilian and Italian bankers did not always limit their paper certificates and notes to the customer's actual deposits, as it could not fail, as one puts it, to be discovered that power to pay such paper did not require that the deposits should be kept intact. The Venetian private bankers plainly issued notes with little regard to deposits. The London goldsmiths did not make their issues of notes square exactly with the deposits of bullion and coin intrusted to them "but coined their own credit into money."

Modern banks issue their notes, not like an individual, for a lump sum to serve in a particular transaction, but they have them engraved beforehand, in convenient form and for different round

sums or denominations. This change of form very much improves the circulation of bank notes, and enables a bank to use them precisely like coin in its daily business.

When bank notes pass from the bank, they go into the hands of the people, who treat them as money, pass them from hand to hand without endorsement; and they remain in circulation while the credit of the bank remains good, an indefinite period.

The notes issued by bankers in excess of any deposit or reserve kept specifically for their repayment, constitute the credit created by issue banking.

SECTION 44.—*Abuse of Issue Banking* seems to be almost inevitable if uncontrolled. When "the Venetian private banks had become banks of issue, the bankers found many temptations in the way of the prudent use of this power. The immediate effect of the over-issue to which the bankers were thus tempted was legislated against by a long series of laws in Venice." Yet the Venetian bankers periodically came to grief through the over-issue of their notes.

Many experiments in the issue of notes by banks, including John Law's, failed in Europe outside of Venice. The over-issue of their notes by the country bankers in England caused or contributed to panics with many bank failures in 1792, 1815 and 1825; and again, after the legal permission of banking associations in 1826, the over-issue of notes by such banks caused a stringency amounting to a panic in 1837, after which the issue of

notes by banks has been closely restricted in England.

In the English North American colonies, numerous banks came to untimely and shameful ends through note issues. Wildcat issues by banks in the United States are yet remembered as a financial nightmare; and such over-issues have twice caused the failure of every bank in the country.

Where notes are issued by many independent banks, it is obviously against the interest of the issuers to have them return, and in fact they stay out indefinitely. As long as they pass current, it is nobody's interest to present them for payment. The system of the Suffolk Bank of Boston to collect and present the notes of the country banks of New England for redemption was artificial, unprofitable to the Suffolk Bank, and wore itself out; and no such system has been devised that is generally workable, although the banks of Scotland, exceptions to all rules, instead of passing each other's notes along, present them for redemption.

It would seem that the fact that bank notes once issued do not come back, induces a course of business which finally ignores the liability of the bank for their payments, and makes such payment impossible. But perhaps the greatest danger in bank issues is in the fact that upon the least suspicion of the soundness of the bank, and in times of financial distress, and adverse foreign exchanges, when everybody wants coin, all the bank's notes come back to it together, when no business management except the keeping of a reserve equal to the issues, could suffice for their payment.

Section 45.—*Restraint of Issue Banking.*—

Theoretically it would seem that any citizen should have the right to issue his promise to pay any other citizen who should be willing to receive it. Yet if the issuing citizen is inclined to be carried into swindling practices, and the receiving citizen to be lulled into security by the conditions attending the issues, they are legitimately controlled by the police power of the government.

It seems that the name bank has such a charm to the public that almost any note of any self-styled bank will be received as money. It is, therefore, so much easier to print and give out notes than to attract deposits, that the greed of bankers almost invariably carries them into perilous issues. If the people regarded the note of a bank in the same way as that of an individual, there could be no over-issue and no harm done. But as the community will not do so, and, in the case of small notes with fast circulation, cannot, perhaps be fairly expected to do so, it may be regarded as the legitimate function of the government to protect it by restraining the bankers.

The reaction against unlimited issues has proceeded so far that some authorities uphold the "currency principle" which would limit the amount of bank notes to the actual amount of coin kept in reserve for their repayment on demand. This principle is practically followed in the Peel Act, which allows the Bank of England to issue notes only for coin actually deposited and retained for the redemption of the notes exclusively; except that the bank may issue about £15,000,000 of notes upon its capital in government funds of that amount. Other banks in Great Britain are limited

to the small circulation they had at the passage of the Peel Act.

The Bank of Germany, newly reorganized, is closely modeled after the Bank of England, and holds over eighty per cent. of its circulation in specie. The Bank of France keeps coin on hand to nearly the amount of its note circulation. It had coin in its vaults in December, 1900, amounting to eighty-four per cent. of its notes outstanding. Besides its reserve in coin the Bank of Belgium is required to keep a certain proportion of foreign bills payable in gold, as quick assets. The average annual circulation of the European banks of issue in 1898 was 14,668,000,000 francs, which was protected by a gold reserve of 8,126,000,000 francs, leaving an uncovered circulation of about 6,500,000,000 francs, although half that amount was probably held in silver.

National banks in the United States must deposit the amount of their notes in United States bonds in the treasury as security for their payment.

It may be noted that the average circulation of the Scotch banks was £8,715,324 and the amount of gold and silver held by them was £7,194,377 in November, 1900. And we may say generally that the development of issue banking is in the direction of the currency principle. When coin is not required to the full amount of the issues an attempt is made to fill the vacancy with quick assets to be applied to purposes of redemption.

SECTION 46.—*Two Classes of Issue Banks* have become very distinctly separated in development. They are (1) government banks having a monop-

oly of paper money issues, and (2) independent or private chartered banks of issue.

The first is the prevailing type. Such banks are, however, in the issue of notes, really government departments. And governments which issue paper money really create banks of issue. Indeed the United States has lately created in the treasury an issue department. The Bank of England, doing a great deposit business, is divided into an issue department and a banking or deposit department, really two banks, one of issue and one of deposit.

Independent issue banks are on the decline. They are being merged into government issue banks, as, lately in Germany, or are becoming really deposit banks, with their issues of minor importance. In the United States, as a national bank with right of issue, becomes large and prosperous, its issues become less in proportion to its business, and even less in absolute amount. In England the banks having limited rights of issue are gradually giving up their issues, and in 1900 actually issued less than one-half of the "fixed issues" to which they were entitled. Even the Scotch banks, typical independent banks of issue in origin, are now principally deposit banks, having far greater deposits than circulation.

Public banks of issue, like those now successful in Europe, have the aid and patronage of the government. Having a monopoly of the issue of notes, cash payments to the bank are largely made in its own issues. The non-development of the deposit system in such banks also contributes to the constant circulation of the bank's issues

through the bank, thus effecting its continual redemption.

Section 47.—*The Difference between Issue and Deposit Banks* is in the form of credit dealt in or created. As we have seen, the deposit banker enters a credit on his books in favor of the borrowing depositor. The credit extended by the issue banker takes the form of notes which he delivers to the borrower. In both cases the bank receives from borrowers much the same forms of paper obligations. A loan by an issue bank is frequently an isolated transaction, the bank awaiting repayment of the loan at the end of its term. And in the case of the public banks like the Bank of France, repayment is more often made in the notes of the bank itself.

On the other hand, deposit banks seldom make loans except to those who are already depositors with a regular account at the bank. When a depositor borrows of his bank, his loan is simply added to his credit on his account, but in practice the bank is soon called upon to pay out the amount of the loan through the regular business drafts of the customer, who is, however, at the same time making new deposits; and when the obligation becomes due, its amount is charged to his account, which, if insufficient, may have to be strengthened by a renewal of the loan.

One difference in the operation of issue and deposit banks is that deposit banks presuppose capital and business in their neighborhoods, while banks of issue bring in money and stimulate business by loaning their notes in localities where business is small or habits of banking are undeveloped.

But most localities not able to attract banks with sufficient capital to make what good loans can be placed in the locality before deposits can be secured, without issuing notes, are generally unprofitable places in which to start banking.

While most independent banks have no issues, all issue banks have deposit accounts. In Great Britain and the United States deposits vastly predominate. The Bank of France has less than one-fifth as great an amount of deposits as circulation, the Bank of Australia one-fourth, while the Bank of Germany and the Bank of Spain have, in deposits, two-thirds of the amount of their note issues. It must be remembered, however, that the paucity of the deposits in the European public banks of issue do not indicate a corresponding absence of deposit banking on the continent, for all private banks and bankers, being forbidden to issue notes, are, of necessity, of a purely deposit character.

It is to be doubted that issue banking, under the restrictions as to reserves of coin now enforced by law or custom, is as profitable as deposit banking. The National City Bank of New York had deposits of $120,000,000 on a capital and surplus of $15,000,000. It is obliged to keep coin and legal tender reserves of one-fourth of its liabilities, including its insignificant circulation. No equally solid bank of issue on the earth can show a proportional creation of pure credit.

SECTION 48.—*Bank Liabilities* to customers in issue and deposit banking differ far less than most people are inclined to suppose. When a bank loans money it has previously received on deposit, it

gets the debt of the borrower to itself for its debt to the depositor. When the bank loans notes of its own issue, it exchanges its debt to the bearer of the notes for the debt of the borrower to itself. Where the bank makes a loan of credit and carries the amount on the deposit account of the borrower, the result is the same; the bank becomes a debtor for the same amount for which it becomes creditor, less the discount on the borrowers' paper.

In all cases the banker's credit alone supports his promise to pay, and his credit is sustained by prompt payments by borrowers, his debtors. He promises to pay back a deposit actually received and straightway loans the money deposited, or more often makes a loan which he treats as a deposit, and his promise to pay the deposit depends solely upon his ability to get in money to meet the demands of the depositor, who, however, usually does not call for money, but more credit. In the other case, the banker more often issues his promise to pay directly without waiting for deposits out of which to make his loans, and without carrying the amount as a deposit of the borrower.

The last method is no more advantageous to the banker than the first when deposit accounts can be created. It is only when a banker fails to obtain as many deposits as there are calls for loans, and loans are not made deposits, that he needs to issue his paper. It probably takes better commercial standing on the part of the banker to attract deposits than to float his simple promises to pay in the shape of bank notes.

The borrower of bank notes which he takes as so much cash, needs only to consider whether he

can use the notes immediately for his pay roll or to pay his bills, and he may not trust the bank for any length of time nor to any extent. So far as a bank is one of issue and not of deposit accounts, its business resembles a cash business rather than a credit business, though the "cash" used is a credit currency. The payments to such a bank are more apt to be its own notes still treated as cash, whereas payments to a deposit bank in modern times are practically all in some other form of credit.

Although the credit invoked in issue banking may seem, at first thought, more attenuated than in deposit banking, in fact it is otherwise; and it must be remembered that the obligations resting upon the banker are in both cases exactly the same. If the banker is careful and makes only good loans, properly distributed to constantly bring him cash in repayment, the result in both cases will be alike. All depends upon the banker's general success in business. But easily floated notes have always been a snare to bankers. They may stay out indefinitely or may come back all together when the banker is unprepared. The notes get away from the borrower and the banker is then at the mercy of the public in general and its moods, often as capricious as those of individuals.

Deposit banking is safer, because depositors are better able to judge wisely of the banker's ability to pay, and the banker can better judge of loans to depositors for whom it does business, than of mere loans of notes to comparative strangers.

Furthermore, in case of the purely deposit bank, no matter how extended the credit, it is short and

must all be constantly provided for, and regularly renewed or extended.

The banker's profits are just the same in the two instances, namely, what he charges for discounting the obligations which he takes for his loans. It is also just the same to him whether a deposit is made in cash which may be loaned, or a loan is made and the borrower places the amount as a deposit.

SECTION 49.—*Scotch Banking* is the most conspicuous example of great success with issue banking in practice. But such statements as this of Macleod: "All these marvellous results, which have raised Scotland from the lowest state of barbarism up to her present proud position in the space of one hundred and seventy years, are the children of pure credit," are of course, gross exaggerations. The character of the Scotch people was the condition which made good results possible, rather than any universal virtue in the financial legerdemain of issue banking, even as practiced in Scotland. These North Britons took kindly to business and succeeded where even the English people and British colonists have produced little but disreputable wildcat currency.

One thing that contributed to the success of the Scotch banks, was that, perhaps from the compactness of the country, they grew in size by throwing out numerous branches instead of multiplying the number of independent institutions. There were lately but ten banks in Scotland, the smallest having twenty-one branches, while the largest had one hundred and twenty-five branches. The capital of the smallest is $625,000 and the largest $10,000,000, seven having $5,000,000 each. The number

of shareholders or partners in these banks varies from 804 to 1,660. Their deposits are from $5,000,000 to $54,000,000 each, and their reserve funds are from $300,000 to $2,500,000, averaging about five per cent. of the deposits. Such large institutions are much more liable to be conducted upon scientific business principles, and upon conservative lines, than smaller concerns. Their very size is also an insurance against minor disturbances in business. And yet there have been two late disastrous failures among these giant institutions. The Western Bank of Glasgow, with $7,500,000 capital and many branches, failed dismally on account of not displaying ordinary skill and prudence in management, it having advanced immense sums to a few firms that never were entitled to any considerable credit.

The Scotch banking system consisted in the issue of bank notes upon a cash credit given a customer when no cash was deposited. The cash credit, as Macleod explains, was a loan of credit, not based upon finished goods in transit, as in the case of a bill of exchange, but an advance for new production. This is exactly the same thing as is accomplished in the United States by the discount of promissory notes. The procedure seems to be similar, the cash credit being given "on receiving sufficient guarantees," the same as notes are discounted, only upon competent endorsement. Two or more names are required in both cases. These "guarantees" were accompanied by a virtual lien upon the new production created by man using the cash credit, for he is the debtor of the bank for the credit, and his property when acquired is legally

liable to sequestration for this debt. And Scotch law is the most thorough in the world in cleaning up the property of a debtor for the benefit of the creditor.

The cash credit is, moreover, practically the same as a loan made with a deposit of the amount of the loan, and this corresponds with the practice of deposit banks, though payment by the bank on drafts of the holder of the cash credit, is made in bank notes, when cash would otherwise be required. The practice in Scotland is therefore simply a combination of issue and deposit banking with liberal loaning provisions, by large banking institutions.

The deposit feature of the Scotch practice is now probably of more importance than the issue feature. A very great contrast is observable between the deposit accounts of the Scotch banks, which are about as large as the loans, and the same accounts in a bank of issue like that of France, where the deposits are of minor importance.

SECTION 50.—*Discount.*—The money changer charges a commission for his trouble. So did the banks of Venice and Amsterdam, the principal functions of which were practically money changing and the transfer of book credits or accounts.

Modern banks make transfers of deposits for the benefit of customers and do much other business for them, in consideration of the use the bank is enabled to make of the deposits on its own account. The bank allows the depositor to transfer his deposit at will, and holds itself liable to make good all the transfers; while the customer allows the bank to loan the actual deposit and to make it,

with others, the basis of credit for further loans, to repay the bank for its trouble, trusting it to make good the deposit as he orders.

Some have made a division of banks called discount banks, but all banks are discount banks. Discounting is their sole source of profit, and is the complement both of receiving deposits and issuing notes. The loans are made upon bills and notes, the interest on which is taken in advance by way of discount.

The loans made by banks are for short periods, usually thirty, sixty or ninety days, so that the funds of the bank may be more subject to call and control, should they be required by the exigencies of the business. Banks now loan vast sums upon call. Stocks and bonds, themselves instantly negotiable, are given as collateral, and the loan may be called in by the bank at short notice.

SECTION 51.—*Redemption* is the breath of life of all credit. It is more strictly applied to the payment of circulating notes payable on demand, but may be extended in meaning.

It is perfectly well understood that bank notes must be payable or redeemable at all times, upon presentation; and most ample reserves have, as we have seen, been generally provided for that purpose. Government notes circulating as money must also be made surely and instantly redeemable in coin, as we shall see hereafter, to make it circulate without depreciation.

Paper of all kinds, payable by a bank, checks, drafts and bills, as well as notes which pass from hand to hand, must be promptly paid at maturity or on demand. In other words, all the debts of a

bank must be instantly redeemed in coin at the bank, and such redemption constitutes the whole secret of bank credit.

Most commercial paper is now made payable at a bank, and has, by general consent, become instantly redeemable at sight or maturity by the bank, as long as the maker or drawer and the bank continue business. The payment or redemption of depositors' debts is accomplished in much the same way as in the case of those of the bank. The depositors' bank account represents his reserve or redemption fund. Like the bank, he keeps on deposit enough to meet his circulating checks, notes and other debts payable at the bank.

Redemption of all debts in the business world is the law of solvency. An act of bankruptcy is merely a failure to promptly redeem a debt. The measures a business man takes to pay his debts promptly are, in principle, the same as those taken by the banker. The merchant must have his bills and notes mature, not all together, but one after the other, as he can arrange his cash or reserve, for their redemption. His receipts and the debts due him must, if possible, be made continuous. In most mercantile business, receipts are even and continuous, making redemption of debts easy, thus giving high credit.

SECTION 52.—*Bank Reserves.*—By American usage, what may be called the redemption fund of a bank is called its reserve. Redemption is the thought uppermost in the ordinary consideration of the reserves, but all payment of bills or debts is redemption, and all the cash in a bank is its fund for the payment of its debts, so all the cash in

a bank is its reserve fund. In fact, all the cash on hand is counted in computing the reserve under the United States National Bank Law. All the cash in a bank at any time is its reserve at that time and should be strictly cash on hand. The English practice of reporting together as one item cash in hand, cash on deposit in the Bank of England, cash on call and cash at short notice, is entirely reprehensible and misleading. Such statements generally, no doubt, conceal a very small fund of cash on hand.

The amount of cash needed in the daily business of a bank is quite constant and becomes well known in practice. But this amount has variations caused by periodical demands for more cash for weekly pay-rolls and quarterly dividends and other such regularly recurring payments. Such demands having the longest periods are the yearly requirements for cash to move the crops each autumn.

A stringency in money nearly always occurs in New York at these crop moving seasons, but it is quite inexcusable, as the banks should provide against it exactly as they provide for their daily cash, even if it does require a little contraction of loans, and consequent loss of interest. It is simply a need for a larger supply of cash for daily business occurring periodically, which it is a shame to neglect.

Beyond the yearly crop periods are the more or less irregularly recurring periods of panic and financial depression. It is the daily business requirements in such times of excitement and contraction of credit that exceed the general average,

and any regular periodical average, that sometimes put to the test even the most liberal reserves. In the ordinary discussions of these questions, it is the demand for cash at these panic periods alone which is considered to require a reserve to define its use, and dictate its dimensions. But the cash that is untouched in ordinary times, and which is generally regarded as a particular fund in reserve for use in emergencies, is not different in kind from that portion of the cash of the bank which is each day put in the till for use in that day's business.

SECTION 53.—*Maintenance of the Reserves.*—When the Bank of England finds its gold reserve shrinking, it raises its rate of discount by public announcement. The other great governmental banks of Europe do the same, but with less frequency. On account of the nature of the reserve of the Bank of England, its publication of the discount rate has become a fairly accurate and sensitive index of the interest rate of the world. Banks throughout the world follow more or less closely the action of the Bank of England. All banks, naturally, by the laws of trade, raise and lower their rates of discount or interest to correspond with the state of the market for money and especially with their own supply of loanable funds. This is in accordance with the economic law of supply and demand which is followed involuntarily by banks in their dealings in the loan market. By this method the bank reserves are maintained in the same manner as the supply of commodities is conserved by the action of prices.

It is required by the law in the United States

that when a reserve falls below the legal proportion to the bank's obligations to its note holders and depositors, no more loans shall be made until the reserve is again at the right proportion. This is accomplished by the stopping of loans from the reserve fund itself, as well as by shutting off deposits of the amounts of the loans which have to be refused. This process may not increase the absolute amount of the reserve, but effectually controls its proportion to deposits.

This legal enactment for the maintenance of the reserves is far more crude and unsatisfactory than the natural law of the market, which, as it were, automatically raises the rate of discount. But as the market law does not always work, owing to human perversity and ignorance, both gradually disappearing, however, the law of the State is necessary and is not unreasonable. When the reserves are impaired, loans are unsafe and should be curtailed in the interest of both borrower and lender.

SECTION 54.—*Reserves in Panics.*—More has been written about the use of the reserves in crises than about their maintenance in more quiet times. Much ingenuity has been exercised to devise some plan by which the reserves may be so used as to ward off or relieve financial panics.

Taken in time, raising the rate of discount, is the natural way of heading off panics and tends to preserve through all conditions the due proportion of the reserves. When panic is on, however, this is no relief, but the contrary. The law stopping loans until a depleted reserve is made good puts the brake on panic conditions more or less effectually, but when it fails to control the train, hastens

the speed by denying accommodation, and, in fact, precipitates the smash-up.

The Bank of England has been allowed by the government to use its reserve as loanable funds and to issue unsecured notes in face of acute panic, with the result of allaying the excitement locally in London. Such use of the reserve, if unexpected, might again be efficacious, but if regularly provided for and expected, would only postpone and perhaps increase the height of a panic.

The New York Clearing House has several times issued certificates to loan to its associated banks in trouble, with very satisfactory results in relieving stringency. Such certificates amount to a second reserve, and, so long as not regularly provided, and not automatic in operation, may prove an effective reserve for creation and use when specially required by the conditions. A provision for regular and authorized clearing house certificates for a reserve would probably be simply discounted and prolong and intensify crises.

When over-production and inflation of credit have brought on a crisis, no currency juggle can prevent losses. No second reserve can be profitably provided against the periodical liquidation. The amount of the reserves and of the currency itself is then a mere drop in the bucket. No miracle of credit can then be performed, for the trouble is that there has been too much credit. Any permanent plan of extending credit in face of crises would simply be discounted and used up before the pinch of the succeeding crisis.

It cannot be too often and too strongly urged that credit subsists upon an active and profitable

business, whether of the individual, a community, or of the whole world. When business becomes slow or unprofitable, credit must be curtailed or losses will fall, not only upon the men whose business is unprofitable, but upon all who extend them credit.

The true time for banks to begin to prepare for a panic and provide for their reserves, is before a careless extension of credit in the mad industrial race which invariable precedes a panic. Enough is now known of the course of industrial cycles through stagnation, prosperity, flush times, reckless speculation, panic, and then all over again, so that banks and business men should avoid unreasonable excesses.

The comparative mildness of so-called panics since 1857, tends to prove that financial madness is far less prevalent than formerly. As an example we may cite the Wall Street panic in stocks on May 9th, 1901, when prices were slaughtered more heavily in one day than ever before in the history of the world, and yet the banks, instead of refusing credit, combined seasonably to throw ten millions into the loan market, thereby allaying the panic without a notable failure.

We may systematize the rules to be observed by banks in crises.

(1) In flush times, when speculation increases, early put on the brakes, scrutinize securities and keep up the reserves.

(2) When clouds begin to appear and depression sets in, gradually force liquidation, carefully maintaining the reserves.

(3) If a crisis comes in spite of all precautions,

face it boldly, throw out loans to the best houses at the right moment, let the weak and foolish take the reward of their foolishness.

(4) After the crisis is past, reverse action, do all possible to counteract depression by all reasonable extension of credit within the limits of your reserved capital.

(5) In the frequent cases of financial panic as distinguished from the crises of industrial depressions, banks, individually and collectively, should boldly extend credit to all who can give good security or show real solvency. But in this case, as well as in that of real crises do not try to bolster up hopeless insolvency.

The more enlightened and stronger efforts of the greater modern banking interests are progressing more potent in financial difficulties. They are tending to secure a more even activity in business.

The voluntary practice of the bankers themselves is and always must be, the great safeguard of business. Yet it might be best to legally allow the exceptional use of the reserves upon penalty of the payment of a moderate percentage of the depletion of the reserves. This penalty should be so large as to prevent extortionate profits and yet allow moderate gains on business taken in stormy times to the prejudice of the reserves. When depletion occurs it would be well to provide also for special examinations of the banks, increasing in frequency with the extent of the depletion. It would be sufficient, perhaps, to adjust the penalties of the law suspending loans upon depletion of the reserves to the above end, and provide machinery in all cases of depletion.

SECTION 55.—*Reserves a Liquidation Fund.*—In its daily business the cash of a bank is used to pay the demands upon the bank. Every time the bank pays cash over its counter, it is in settlement of a legal obligation. The cash is thus constantly used in the normal liquidation of the regular debts of the bank. In ordinary times in every business this is simply paying bills rendered. In the case of banks it is mostly the paying of checks, which are bills drawn on the banker.

Periodically, in banking, as in every business, there are more than the usual bills to pay. At some of these periods there are more bills to pay than there are bills for which payment is being received. This is a period of liquidation and the cash in reserve diminishes.

When dull times are succeeded by hard times and panicky conditions, credit is discredited and cash comes to be more demanded and liquidation proceeds apace. Then the legitimate use of the reserves is not so much in extending loans as in paying off the debts of the banks to depositors and thus using the reserve in liquidation. The business world should withdraw its attention from the use of the reserves in tiding over troublous times by extending credit to those who have gone too far already, and concentrate its ideas upon the liquidation which is periodically necessary in business.

The banking reserve is a fund for liquidation, and when prosperity is declining, as it periodically must, the first thing is to curtail loans, and as loans are gathered in, to use the cash constituting the reserve, in paying depositors. Then, if the business is sound and liquidation is begun soon

enough, with the reduction of the loans and deposits, the reserve will decrease, but only in its proper proportion, and the percentage of the reserve to deposits will remain stationary.

We repeat that the great problem of the use of the reserves, is not to use them to extend credit, as is generally thought, but to use them in liquidation of debts in the proper curtailment of a business which has become too extended. And if the reserves have been kept at a proper amount and the business well managed, the reserves will suffice for any necessary liquidation without becoming disproportionally exhausted.

SECTION 56.—*Capital as Reserve.*—The only distinctive business of a bank is loaning. The distinctive capital of a bank is therefore what is required to constitute its loanable fund. And it does not need a larger capital than such fund, except to provide for office rent and salaries. As the capital of a transportation company is put in roadbed and rolling stock, of a manufacturing company in plant and raw materials, of a merchant in stock in trade, so the capital of a bank is properly put into money in which it deals.

In one aspect of any business its capital is only its liquidation fund, the amount necessary to provide for the payment of the debt it entails. If, in the last section, we arrived at a proper conception of bank reserves as a liquidation fund, we can readily see that the capital of a bank has no great use except to provide for the reserve or liquidation fund.

The reserve of a bank is therefore no mystery. It is used continually and is the form taken by the

necessary capital of a business dealing in money and credit only.

We may observe that the reserve fund of a bank is its capital in use, and can no more be disregarded in its relation to the volume of the business of the bank than can the capital of any other business.

The capital or reserve of a bank being its fund for the payment of the balances in its business, properly limits the amount of the business and of these balances. And the business of a bank can no more indefinitely exceed its capital or reserve than can the volume of any business outstrip its capital.

In confirmation of this view of the relation of the capital of a bank to its reserve, we observe that the combined capital and surplus of the clearing house banks of New York city are exceeded by the amount of their reserves. On May 10, 1902, the capital funds of those banks amounted to $161,000,000, while their reserves amounted to $243,000,000, $170,000,000 of these reserves being in coin, mostly gold. Thus the gold reserves of these banks exceeded their combined capital.

The reserves of twenty-two New York city banks, not members of the Clearing House, but clearing through some of its members, and not national banks, considerably exceed their stated capital, while they have another fund on deposit with their clearing house agents also exceeding such capital. And it is interesting to note that the capital fund of the Hongkong and Shanghai Banking Corporation, on December 31, 1901, was reported at $23,750,000 and its cash $37,545,000.

As a very general rule, the reserve funds of all old and prosperous banks, except possibly in England, greatly exceed the amounts of their capital, whether such reserve is kept voluntarily in accordance with the laws of business or by legal compulsion. Capital is put into a reserve fund as the bank starts in business, and as the business increases the reserve must increase, whether or not the capital is nominally increased. The reserve is therefore the real capital of the bank, and the nominal capital may not be a great part of the reserve.

The coin reserve of a bank may be made to exceed its capital by direct purchase out of the profits of the business, but it is no doubt usually made up and constantly replenished by deposits of coin. The daily surplus of coin deposited and not paid out, is a part of the reserve, and by such daily excess of coin deposits, a reserve may accumulate.

SECTION 57.—*Assets Banking* as distinguished from banking upon the strength of a reserve in gold, is but one, perhaps the last and least important of the cheap money delusions that have always afflicted mankind. The common sense of bankers leads them to put their capital into the shape of a reserve in coin. The great banks of issue go further in this direction and carry a greater proportion of reserved coin to their issues than is carried by deposit banks on account of their deposits. From the time when stocks of merchandise failed as security for banking operations in Corinth and Venice, to the present time, assets as such, of whatever nature, have proved delusive to bankers.

The capital of a bank, as assets, has little to do with the distinctive business of the bank. The capital is chiefly necessary to provide its money reserve. Quick assets may be theoretically better than slow, but money, the quickest of all assets, is the thing essential. Assets, other than gold, are of no account in the ordinary business, and are worse than useless as support for bank debts, and especially for bank notes, the most troublesome of all bank liabilities. The fact that a bank might, on dissolution, pay its notes, and even its deposits also, will not save the credit structure of the bank, its principal value, which is all the time imperiled by the mere fact that some of its capital is bound up in assets not money.

A bank does not need assets, except for its reserve, and all surplus not needed for the reserve might as well be distributed as dividends. A bank holding productive assets, is, to that extent, an investment company. Such investments, inevitably leading to an undue extension of the banking business, are more noxious as a temptation than valuable as a gratuitous benefit to creditors in case of dissolution.

The tendency of some banks to buy corporate stock and hold it as security for its operations, perhaps in imitation of the holdings of United States bonds as security for the payment of the national bank notes, is altogether pernicious. Such banks tend to become stock jobbing speculative concerns rather than investment companies even, and are departing from all legitimate banking methods. Holding stock as collateral for loans is, however, quite another matter, and com-

paratively safe, though dangerous enough when carried to extremes.

The notes, bills and other paper held by a bank for its loans are in no sense assets or capital upon which to base an extension of business. Such paper is offset by an equal amount of indebtedness to depositors or noteholders.

The proposition to allow banks in the United States to issue notes to the amount of their captal or assets, is untenable, (1) because banks need no capital or assets, except in their reserves; (2) because assets other than gold are not reliable to secure bank debts; and (3) because such proposition, ignoring the rights of depositors and taking away their legitimate security, is unfair to them as well as delusive to note holders.

It is not a wonder that the foes of one superstition are usually the devotees of another allied, but perhaps more advanced, superstition. Thought advances by short steps. Many of our "sound money" men, after the death of "free silver," follow after "assets banking," and try to delude themselves that they are not really harking back to the cult of that old money demon whose handiwork is "wildcat money," like that which some of our fathers still living knew and remember to their sorrow.

SECTION 58.—*Gold Reserves.*—As the gold standard prevails, bank reserves tend to be composed almost entirely of that metal. This is as it should be, because these reserves must be adequate when financial confidence is shaken, and gold has enjoyed the unchanging confidence of the world for two hundred generations. Practice and

the development of theory has conclusively indicated that gold is the proper constituent of the reserves, and the sole reliable redeemer of either deposit or issue currencies.

National bonds as a basis or reserve fund for bank note issues, though they have served a good purpose in the United States, are utterly unscientific, and, except in the case of bonds of perhaps four, maybe of only two nations, would be regarded by Americans as unsafe. Instead, therefore, of extending the issues of national debt bonds to continue the present system, the United States Government should provide for the gradual substitution of gold for bonds as the basis of the issue of notes by the national banks. The same reasoning applies to the issues of government banks like those of England, France and Germany, so far as based on national securities.

The whole amount of coin and bullion in existence may be regarded as the fund reserved for the redemption of debts generally. That there exist more debts than the amount of gold is no reason that this reserve is inadequate. The system of setting off debts against each other by bank arrangements makes a vast difference between the amount of maturing debts and the balances for which alone the reserve is liable. Coin, as the general reserve is not used in the payments of debts much more than bank reserves are used, but its existence as a reserve is no doubt absolutely essential.

SECTION 59.—*The Amount of Reserves* which bankers should keep is a question of considerable complexity. The reserves are apt to be regarded

as so much deducted from the amount upon which the banks are receiving interest. But loans are always several times the amount of the reserves, and the loss of interest on the mere amount of the reserve, is, therefore, much less in proportion to interest received than at first appears.

On the other hand, the reserves are funds which set a limit beyond a certain multiplication of which loans cannot be safely carried. In other words, the reserve sets a limit to the possible extent of loans compared with the banking capital. The necessity of the reserve fund deprives a bank, not merely of the interest on the amount of the reserve, but deprives it of the number of times that interest, which the amount of loans bears to the capital. In fact, it may be said that the necessity of a reserve fund is the one thing which prevents a bank extending its loans without limit and making money without capital.

It is equally to the real interest of the public and the banks that the reserves be kept sufficient, and at the same time be economized and the banks be allowed to utilize as much of their cash for profit making as possible. But the bankers' more definite and immediate interest in their profits leads them, nevertheless, into constant and strong temptation to trench on their reserves and to make loans too greatly out of proportion to the amount kept in reserve.

Since bank notes have come to be generally secured by their full value in cash or quick funds, the matter of the reserves chiefly concerns depositors. The necessity for a reserve is exactly the same in the case of deposits as in that of note

issues, but in the former case it need not be so large in proportion; and, therefore, the deposit banker can make larger legitimate profits.

National banks in the United States are required to keep in reserve an amount of cash equal to one-fourth of the deposits and note issues outstanding, in the large cities, and fifteen per cent. thereof in the country generally. The New York city banks voluntarily keep a large part of their reserve in gold coin.

The banks of Continental Europe are required to keep reserves of much the same proportion as in the United States. And this may be regarded as about the right proportion of reserve to deposits and issues, dictated by experience. But the Bank of France, whose issues exceed its deposits five times, voluntarily keeps a reserve equal to two-thirds of its issues and deposits combined. It, and the other European banks, keep an increasing proportion of their reserves in gold coin, instead of silver.

Modern practice, both legal and voluntary, shows that the bank note currency cannot safely much exceed its gold reserve fund. We may say roughly that the check or deposit currency may legitimately exceed its gold redemption fund from four to possibly ten fold, according as the property basis of the business is rapidly moving finished goods or slower goods in course of manufacture.

SECTION 60.—*British Reserves.*—The Scotch banks carry a reserve of about five per cent. of their deposits, although, as we have seen, the reserve is nearly equal to the amount of the issues,

so comparatively unimportant have issues become.

In England the matter of the reserves has long been a burning question, and the situation there is quite extraordinary. The country banks deposit their reserves with their London correspondents. The London banks use these and deposit what they see fit for reserves in the Bank of England. And it may be said roughly that the Bank of England keeps a reserve of about $200,000,000 in gold, which is practically the whole cash basis of the greatest credit fabric in the world. So unstable is the credit of the banks in England, so enormous are its proportions, and so sensitive has the commercial public become, from its constant discussion for nearly a century, that the collapse of the whole structure would hardly be a surprise, though it would be an unparalleled calamity. The serious financial difficulties of a single banking house, the Barings, lately shook British banking credit to its foundations, and caused a spontaneous grasp of the principal banks and bankers to save it, and themselves, from indiscriminate ruin.

The gradual change of bank loans, from discounting bills of exchange almost exclusively, to a greater proportion of loans in the speculative market, is undoubtedly making English banking more hazardous, and making large and available reserves more and more necessary. In fact, the English situation seems to call aloud for the keeping of reserves by all the banks, instead of relying entirely upon the Bank of England, which seems to have no legal duty to the others.

Section 61.—*Deposited Reserves.*—It is not alone in England that bank reserves are deposited

in other banks. In New York city, the State banks carry as much of their reserves on deposit with their clearing house agents as they keep in their own vaults. And the United States banking law allows country banks to deposit part of their reserves in the banks of the larger cities.

It would, however, seem perfectly obvious that a bank's reserve should not be deposited in another bank. For, when a bank puts its cash on deposit in another bank, it puts that reserve to the same hazard as affects all the deposits for which the reserve is supposed to be a safeguard. The depositary does not keep the deposit intact, but itself keeps a reserve of only a percentage of its liability to depositors.

When reserves are most needed, all banks need them equally and the deposited reserve proves unavailable. And it signifies little that the banks in which other banks deposit their reserves are great and strong, for all are reduced to a level in those times of stress against which the capital and reserves are kept at great loss and expense through all the years of prosperity.

We may sum up, as the golden rule of banking, that the capital of a bank should be gold in reserve in the vaults of the bank itself.

SECTION 62.—*The Clearing House.*—The banks of Venice and Amsterdam each provided a means by which the citizens of those cities, having accounts at the bank, could set off their debts against each other without the actual payment of money. The Bank of France, doing a large part of the banking business of the French people, through its branches in each department of the country, also

furnishes a medium for a general clearing of the debts of the country through a transfer of credits on the books of the great bank. These transfers are made between customers living in the most widely separated departments of the country, and they cancel a large part of the debts of the country, as most business men are customers of the great national institution.

The clearing house makes many independent banks practically branches of each other for the purpose of cancelling the debts of their respective customers. The clearing houses of England and America are institutions through which the banks in each city or district exchange the credit instruments drawn by their customers thereby cancelling the debts of those customers.

The customer of a bank draws his checks on his bank and sends them to his creditors. He may also make his notes and write them payable at his bank. Any bills accepted by him are payable at his bank. These checks, notes and bills are sent in due course to his bank for payment. The same customer receiving from others checks, notes or bills payable at his own or other banks, deposits them with his bank for collection for his account, and his bank sends them for payment to the respective banks where they will be paid, except that those payable at his own bank are cancelled by transfer or credit on its own books. Most of the business in English speaking countries is between different banks. And we may say shortly that a business man sends his checks, bills and notes to his creditors, who deposit them in their several banks,

which present them to his bank to be paid out of the fund made up of the checks, bills and notes he has received and deposited in his bank.

To accomplish the payment of these instruments most expeditiously, they are exchanged for each other and thus cancelled by being set off against each other.

All the banks in each city or convenient district send clerks to the clearing house, and there each clerk delivers his bank's demands upon the other banks to their several clerks, and receives from each clerk his bank's demands upon the first institution. The balances between the demands between each bank and every other one are then figured up and settled.

The instruments representing debts and credits sent and received by each customer for any considerable length of time, offset each other; and those sent and received by the many customers of each bank for even a single day, offset each other with very slight balances. Indeed the balances due to or from each bank are surprisingly small. The weekly clearings of the New York banks average $1,000,000,000 and the balances $50,000,000, or one-half per cent. of the debts cleared.

Even these balances are no longer settled in cash. In New York each bank has a deposit at the clearing house, and the balances for or against each bank are simply added to or subtracted from such clearing house accounts. The London banks now clear for the English country banks so that the London clearing district is all England, and the mighty transactions of the commercial mistress

of the world are settled and redeemed almost without money, delay or expense.

SECTION 63.—*Savings Banks* have little effect upon the currency because they make use of no credit, that is, they do not, as other banks do, use money merely as a basis for sustaining loans or credit. They receive deposits and loan them upon landed security, or invest them in certain legally selected classes of corporate securities and pay the depositors dividends amounting to a steady low rate of interest, absorbing all income after providing for the expenses of running the institution.

Savings banks are perfect mobilizers of capital, but their comparative unimportance in the financial world illustrates the fact that credit is something more than a mere mobilization of capital already in existence. A loan by a savings bank means a transfer of some of the cash which it has mobilized, while a loan or discount by an ordinary bank means that the amount is passed to the borrower's credit on the books to be drawn against in such a way as to avoid loss of cash.

Like other banks, savings institutions have to keep idle cash on hand for daily business to answer withdrawals and avoid all suspicion of inability and consequent runs upon the banks by the depositors. But the cash kept on hand by savings banks does not approach in amount the ordinary reserve of other banks. Savings banks may protect themselves by requiring sixty days' notice of the withdrawal of deposits if they desire. Moreover, they are well protected against any ordinary runs by their gilt-edged investment securities, at

all times instantly convertible into money. Financial panics have little effect upon banks for savings.

SECTION 64.—*Trust Companies* have been organized in the United States to receive trust funds and act as financial trustees. "Being empowered to act in a large way as a trustee, guardian or executor, almost the same liberty is accorded to a trust company in the handling of funds as is allowed to a private individual."

Except that a trust company cannot, in New York, discount notes, they are hampered in their loan making by few limitations as to the quantity of the loan or the character of the security. They can buy commercial paper or loan on anything including real estate and their own stock, from both of which banks are precluded.

These companies naturally pay interest upon their comparatively permanent deposits of trust funds; and quite as naturally they have attracted general deposits in large accounts by also paying interest thereon. Upon the strength of these large inactive deposits, the companies make large loans without so much attention to the commercial quality of the paper they accept as the banks bestow. While a bank may not loan over ten per cent. of its capital to any one, a trust company may, and frequently does, make single loans to an amount nearly equal to its loaning capacity.

A feature of this large loaning is that involved in financing corporations either in reorganization or in original promotion. In the latter case the trust company is practically a promoter or underwriter. In either case, it takes the stocks and

bonds of the corporation, constituting a virtual mortgage upon its property, gives the corporation cash or credit or both, and reimburses itself by marketing the securities. We may say with Philip King, that "Many of these institutions are now organized frankly to act as sponsors for speculative flotations and promotions."

Strangely enough these trust companies are free banks, having assumed general banking functions. They are free from all requirements as to reserves, and nearly so as to inspection. In New York they keep less than three per cent. cash reserves, but they generally keep deposits in regular banks up to the legal reserve requirements. Strangely, again, this voluntary compliance with a strict and onerous legal banking rule is induced by the necessity of connection with a bank that is a member of the Clearing House Association, through which the trust company may "clear" each day the checks and other paper involved in its usurped banking business.

This voluntary observance of the principal banking law through business necessity, is good so far as it goes, but a deposited reserve is no doubt delusive, as the deposits themselves depend upon the reserves of the banks in which they are deposited.

A saving feature of the case of the trust companies is in their comparatively large and growing size, and in the enormous financial strength, and consequent conservatism, with which it is becoming the fashion to buttress the trust companies, especially those just entering the fierce competition for business. If the clearing house will ad-

mit the trust companies upon their compliance with ordinary banking laws, and the companies will join the clearing house, practically all legal and business conditions will be met and safeguarded.

Philip King's statement in the *Sun* of the case against the trust companies is worth repeating in connection with the matter in hand, as well as to illustrate modern tendencies in banking and credit.

"Encouraged in so extraordinary a way, the growth of trust companies has naturally been very great. Fully one-half, and perhaps more than one-half, of the speculative operations in Wall Street are now conducted with trust company money. One rarely hears of the formation of a new national bank. But a new trust company is born every day.

"What is the true bearing of all this upon the financial situation? It is simply that the most huge creation of credit for speculative purposes that ever occurred in any security market in the same space of time has taken place upon our Stock Exchange in the last five years by means of loans made to the amount of at least one-half of the entire credit expansion by institutions which, by a perversion of their proper authority, are subject to almost none of the checks, limitations and restrictions of the national banking system. Not to moralize upon such a state of affairs, let only its anomalous influence upon the statement of the condition of the local associated banks, as published each week, be briefly considered. This

statement is supposed to be made for the purpose of informing the people as to the diminishing or increasing strength of bank reserve at this centre. Yet the existence of the trust companies and the vast proportions which their business has assumed often render the statement essentially false. The bank statement shows with more or less accuracy the amount of cash actually possessed by the banks and trust companies at the time the statement was made, since the trust companies have no separate depositories for their funds and keep all their money in the banks; but loans made by the trust companies do not figure in the bank statement in the slightest measure; and thus a very great extension of credit may occur of which people generally are wholly unaware. The banks may call in their loans and present in their weekly statement a flattering picture of reduced liabilities; but the trust companies may immediately renew these same loans themselves, and renew them in even greater volume. It would seem as if one of the first necessities caused by this transformation of the trust companies into money-lending and speculative institutions ought to be the requirement that all of them should be members of the New York Clearing House. In that event, their loans, as well as their cash on hand, would figure in the weekly bank statement and the true nature of the financial position at this centre be disclosed."

We venture to say that the operations of the trust companies represent a transition stage in the development of credit; and that credit is accom-

modating itself to the transition in the business world from individual and partnership operations to those of syndicates and corporations. The regular banks and especially private bankers are involved in the same transition. National banks in the United States are consolidating to compete with the trust companies and handle some of the credit interests of the modern corporations and combinations.

SECTION 65.—*Insurance* resembles banking in that it is founded upon the doctrine of chances or averages, which enables companies with a comparatively little capital, to assume large liabilities, upon the chance, which amounts to a certainty, that these debts will be demanded in regular sequence in practically even or average daily amounts. Large insurance companies receive large sums of money daily and pay out a regular proportion of it daily, or at least weekly or monthly, but as their debts are upon long time, they may, and do, invest largely in corporate stocks and bonds and loan upon mortgage.

Large conflagrations and plagues are to the insurance companies what panics and runs are to banks, and have to be guarded against by having cash quickly available.

SECTION 66.—*Private Banking.*—It is a pronounced tendency for all sorts of financial businesses concerns handling money and credit to do banking. Brokers, especially in stocks, as they grow in business, and in regularity of receipts and disbursements, allow checking against balances and encourage deposits. Many capitalists from loaning money develop into private

bankers. But the improvement of coinages, their better maintenance, the progressive consolidation of countries, and the uniform mint arrangements of the Latin Union, render money changing less important as a part of, or preliminary to, banking business.

It is to be remembered that the right of private banking is a perfect system of free banking. It is entirely unhampered except by the tax on notes in the similitude of currency. The opportunities of private banking have no limit except that if many persons wish to unite for banking with a joint stock and limited liability, they must get a charter with such privileges and limitations as experience has shown should appertain to corporations engaged in banking.

The natural business of an individual or a firm with a few members and full liability is open and knowable of all men, but when the mysteries of corporate and banking operations are added to limited liability for debts, restrictions are reasonable. But many private bankers are large institutions and free banking flourishes.

This is a point that may well be borne in mind both by those who clamor against banks and those who ask for easier banking laws and regulations. The plain natural right to do banking is and should be free to any individual in any locality.

SECTION 67.—*Credit* may now be defined to be an economic quantity arising out of a business as a going concern, and proportional in amount to the reputation of the business, its property, and the rapidity and regularity of its cash turnover. The use of credit does not tie up or hamper the

free use of the material capital belonging to the concern using its credit.

Only business men have credit in a commercial sense, and it is not the moral character of a person which gives him credit, but his business reputation. A corporation may have this business reputation. To have credit a business man or concern must be known to be regular in paying debts, and the business must be a paying one, giving reasonable expectation of continued ability to meet obligations promptly. The most honest and capable farmer has little credit because of the slowness and unprofitableness of his business.

Credit does not dispense with the ownership of wealth; no commercial credit is given those who have no wealth. Credit, however, enables wealth to be kept in use as property while it is serving its purpose as the basis of a derived credit which is more or less proportioned to the amount of the property.

Pure credit is not a lien on particular property, but a general charge upon the whole of the debtor's property. But much credit is made a lien on particular property without depriving the owner of the benefit of its ownership, except that it cannot be further pledged or alienated. Examples of this are: Collateral deposited to secure a note, a bill of lading attached to a bill of exchange, and a mortgage to secure notes or bonds. The attachment of these liens, however, tends to retard the circulation of the credit instruments they protect.

Credit increases with the rapidity with which the capital in a business is turned over, and the

magnitude and regularity of its cash receipts and expenditures. Credit attains its limit in the case of banks which deal in cash rather than in commodities. Banks, in fact, are principally dealers in the credit which the flow of cash receipts and payments engenders. In so far as banks deal in lands and merchandise, their credit is impaired and endangered, and the ancient practice of so trading has been entirely abandoned by bankers.

Average, or the doctrine of chances, is supreme in credit and the utilization of the currency. It is the sole necessary principle of that regularity of income and outgo which is the foundation of banking credit. It enables bankers to keep up debts ten times as large as their capital and enables banks associated in clearing houses to cancel debts as in 1874 in England to the extent of $30,000,000,000 without the use of a single coin.

From our studies we are driven to the conclusion that credit is an addition to the material resources of the concerns possessing it and the country in which it is used. It is not a mere quality of wealth or character or both together.

SECTION 68.—*Bankers' Profits.*—If any one believes that, as money changers, dealers in money, dealers in credit, or mobilizers of capital, the banks are oppressive by reason of excessive profits, the remedy is not by attempting to change the quality of money, for they profit by changes in money, nor by attempting to deny them the privilege of issuing money, for that privilege they neither want nor need, for enough existing money is readily deposited with them; and not by attempting to refuse them charters even, for pri-

vate bankers flourish mightily. They cannot be suppressed, for their business is just as necessary and legitimate, at present, as that in trading in any commodities whatsoever.

The credit created by banks tends by its amount to reduce the burden of bankers' profits to the people. The amount of credit is added to the comparatively insignificant amount of money to supply the loan market and meet the demand. By the creation of credit, interest which, in ancient Greece and modern China, was and is from twenty to fifty per cent., becomes a light burden of from two to six per cent. of the amount borrowed.

SECTION 69.—*Rural Credit.*—A recent editorial writer well says that the primary function of a bank is to grant reasonable credits on the security of commodities passing through the channels of trade between the producer and consumer, and that exchanges in part originate in small communities where the material is produced, therefore "there is a legitimate function for banks in these small communities and once created the banks would tend to increase the exchange they facilitate."

But as to providing credit for farmers, we may say that so far as we can judge from the records, loans to farmers in Egypt and Chaldea were of very doubtful benefit to the borrowers. And we are certain that such loans in Grecian and Roman times from the very beginning of what we have termed money economy, were always and necessarily disastrous, and that the debts of farmers for loans of money were for two thousand years, one

of the most fruitful causes of almost universal slavery. Bücher very acutely observes that the experience of the classical world in loaning to farmers was the sufficient cause of the canonical injunctions against usury. There has been no modern development in the business of agriculture that justifies any hope that credit can be generally and successfully beneficial to farmers at present. The reasons are these:

(1) Agricultural production is slow, twelve months being the average period for standard crop and live stock returns, while a longer time is required for any general creation of farming plant and soil improvement.

(2) Agricultural operations are subject to very great risks from storms, droughts, floods, diseases of plants and animals, insects and other enemies against which there is no safeguard; while good crops may be disastrous owing to the state of the market.

(3) The rate of profit on farm produce never approaches that in exchange.

All these things render banking credits to farmers on any great scale impossible. The discount must be excessive, to the impoverishment instead of the enrichment of the borrower, or the lender will be bankrupted. The mortgage banks of Germany, conducted with much thought and conservatism, are, one after the other, succumbing to the inevitable, the last instance being the Pomeranian Bank, carried down by its mortgages.

SECTION 70.—*Branch Banking* as a system has never shown a conspicuous failure. In Scotland for two hundred years, and lately in Canada

and Australia as well as in England, it is eminently successful, to say nothing of the magnificent branch system of the Bank of France. Even in the United States the branch system of the two federal banks made those banks conspicuously successful amid the uniform failure of early banking in this country.

Branches can be pushed into more remote districts in the country than independent banks, no matter how small, owing to economies in management and in the establishment of credit. Furthermore branches of large banks are safe while small banks are notoriously insecure. Branches can be provided with funds so as to profitably push credits to farmers much farther and at lower rates of interest than would be safe for small, isolated institutions. Decidedly, strong city banks should be encouraged to establish branches in the country.

It would be well to let country branch banks habituate their customers to the highest form of commercial credit, deposit circulation, from the beginning. If farmers as a class can profitably use credit, it will be because they learn to profit by the most approved business system, the best and cheapest form of credit. A check circulation based on bank deposits is the ideal rural circulation. It is necessarily handled carefully. It is elastic, created when wanted and retiring when no longer needed. Anticipating somewhat, we may say here, that notes are too easily and carelessly circulated, and are detrimental to the country district. The care required in handling checks is none too great for rural business prosperity.

Notes that can properly be handled without care will never stay in rural communities whose business, never fast, suffers annual stagnations, when any currency like bank notes must go elsewhere for profit.

It must be repeated that a bank deposit is not necessarily made or withdrawn in money. When a farmer borrows of a bank, he should not take away money to put in his wife's stocking, but create a deposit against which he can, with perfect safety, draw for the payment of his bills as they occur. And in the long run credit can be extended to the farmer more cheaply through the deposit than through the issue system.

CHAPTER IV.

CREDIT INSTRUMENTS.

SECTION 71.—*History of Bills of Exchange.*—We have vague reports of the business of classical Greece and Rome that would indicate that those bright people used more or less habitually some kind of written orders for the payment of money in distant places, corresponding to later bills of exchange. Nys, after Ihring, ventures to suggest that in the relations maintained all over the empire by the *publicani,* the bankers of the Roman world, there existed a certain means of effecting payments of money abroad.

Here is one view. From the beginning of the Christian era, the Jews became dispersed, and, shut out from other trades and occupations, became usurers or money lenders at interest, a business which by the canon law, was forbidden to Christians. The Jews were united by such strong ties that their business assumed almost a corporate aspect. They bought, sold and transferred for collection, part of the many debts constantly owed to them, and became practically an international exchange community. Their practice gradually evolved the bill of exchange.

Nys gives an account of the military brotherhoods of the Temple and of the Hospital which are met with at the beginning of the twelfth century. Precursors or rivals of the Italian companies, they had for a long time in their hands a large part of the capital of Europe. They received deposits, made advances, conveyed to a distance considerable sums and paid accounts by means of correspondence or of transfers in bankers' books. The holy wars which entailed enormous expenses excited a considerable movement in the financial relations of the East and West. It may be stated that the Knights Templar were, along with the Hospitallers, the cashiers of the Crusades.—Nys, "History of Economics," 225.

Rivals of the Jews, and more given to money changing, Lombard and other Italians naturally also became exchangers. Many large Italian houses included whole families and had branches in many cities widely separated. The financiers from each city in Italy and from associated leagues of such cities, frequently united for exchange purposes. Italian finance thus grew into a great system of international exchange. Among the great fairs of the Middle Ages under the influence of the Italians, some became connected chiefly with the business of exchange. Piacenza, the most noted of the "fairs of exchange," was practically a clearing house for foreign exchanges.

"The bill of exchange was already in frequent use in the middle of the thirteenth century, but at this time its form was that of a document certified before a notary. At the end of the fourteenth century it had approached the form now in use.

It should be added that the bill of exchange was drawn only by the money changers and the bankers that had branches or agents."—Nys, "History of Economics," 282. "The business of bill broking grew up in England towards the end of the fourteenth century. The issuance of bills of exchange, based upon genuine business sales of goods, was recognized as a legitimate source of gain by the Canonists."

SECTION 72.—*Bills of Exchange* are the leading and typical instruments of credits discounted by banks. They are orders drawn upon a debtor by the creditor in favor of one to whom the drawer owes money, or for his own account. One shipping goods at once draws his bill upon his consignee at thirty, sixty or ninety days, and negotiates the bill with his bank, thus receiving the price of the goods, minus the discount, before they reach the purchaser, and before he is bound to make payment. If the bill is drawn in favor of a creditor of the drawer, it pays that debt as well as the original debt of the drawee to the drawer; and then the payee may indorse the bill to pay a debt of his, and the indorsee may indorse it to pay his debt, and so on indefinitely. The bill thus circulates in the commercial world until presented to the receiver of the goods and paid, after it has paid a debt for every hand through which it has passed.

This is the favorite form of commercial credit in England, and naturally so as it is a nation of traders and shippers, sending and receiving most of the commodities of the world. In their situation, bills are natural credit instruments and have

general currency. The traffic in bills, and their circulation, coincide with the wonderful commerce of England, and are much more important and extensive than the direct circulation of silver shillings and gold sovereigns.

We should note the closeness of the connection between these instruments and actual property. The greater share of them are drawn against actual consignments of finished goods. There are frequently attached to them bills of lading which represent the property in transit. Each receiver may also rely upon the responsibility of the person who indorses the bill to him, though he may know nothing of the previous parties to the bill or of the goods in transit.

In reality, therefore, the bill circulation seemingly so much in the air, and so dependent upon credit and confidence, is actually supported at each step by the wealth of known indorsers, and based upon goods no further away than the holds of good ships under experienced seamen, covered by ample insurance. This fact probably accounts for the persistence of British credit apparently based upon so little gold as to cause shivers of apprehension, when the reserves are mentioned.

Section 73.—*Foreign Exchange.*—Although bills of exchange may be drawn between places in the same country, foreign bills are generally denoted by the term, while the others are called inland or domestic bills, and are comparatively unimportant. Bills of exchange represent all sorts of commercial dealings throughout the whole commercial world. They cover not only commodities exported and imported from one place to an-

other, and the debts thereby contracted, but interest and profits on capital invested abroad, freights, banking and other commissions, the expenses of foreign residence and travel, all claims and obligations of citizens of one place or country, by and upon, those of another, together with the foreign loans of governments.

So universal is the system of exchange of commodities from one modern country to another, that, in every country, there are, at all times, many creditors and debtors of citizens of other countries; and debtors generally find it to their advantage to take up drafts of creditors abroad, for they thereby pay their foreign debts, and avoid remittances in cash in any of their transactions. The multiplicity of these exchanges and bills, gives play to the law of averages, and the offset of foreign debts against each other, so that very little money is actually exchanged between nations.

It is worth while to take a hasty survey of the system of foreign exchanges by bills, with special reference to their effect upon the currency, following, in general outlines, the article "Exchange," in the Encyclopedia Britannica.

In medieval times the people and merchants of neighboring countries brought their staple or surplus products to common fairs and markets, where one kind of goods was valued and bartered directly for another, and the dealers brought a little gold and silver with them to settle the small balances. Money changers attended in the market places and fairs to exchange the different moneys for the dealers. The money changers developed into bankers who turned their money

business into a dealing in credit. With the development of business and the multiplication of the objects exchanged, merchants began to remain at home and send their goods to each other at their houses, and by means of bills of exchange for the debts thus contracted, or the credits thus created, they accomplished the exchanges with even less money than before.

The growth to which the system has attained is best shown by the fact that there arises a rate of exchange which is ruled by the supply of and demand for bills for the time being in each market. When the demand for bills on a given center is greater than the supply, the deficiency may be supplemented by bills on other centers having favorable exchange with the given center. Exchange between one country and another is never a completed and perfectly adjusted process, but a constant series of transactions reflecting the varying phases of claims and debts as they mature.

Section 74.—*The Par of Exchange* depends upon the local currency of the country upon which bills are drawn and in which they are computed Such local currency is the par upon which bills are compared and their value in different countries determined.

Between countries whose money is upon the gold standard the par of exchange is determined by the ratio between the weights of the fine gold in their money units, and is invariable. It is the same between two countries upon the silver basis.

Between a country having a gold standard and one having a silver standard, the par is the ratio between the value of the gold coins of the one and

the silver coins of the other, and varies with the market price of silver.

Foreign bills drawn upon a bimetallic country will be made payable and be paid in the metal which is the higher priced in the general market than by the legal price standard of the country in question, for such higher priced metal would go further abroad than at home. Thus, between a gold standard country and a truly bimetallic country the par of exchange would still vary between the gold par and the varying par set by the market price of silver according as gold or silver were temporarily over valued, and not by the legal ration between silver and gold established by law in the bimetallic country.

Because a metal under valued in the coinage of a country trying to maintain a double standard leaves such country through its foreign exchanges, it has always been found impossible for a trading country to maintain such double standard.

Between a gold country and one with a depreciated paper currency, the daily depreciation from the nominal metallic unit of the country determines the real par of exchange, so that the paper currency only buys exchange according as it would buy bullion.

In the case of silver and paper money countries, the par of exchange is so variant that it is difficult to distinguish it from the rate of exchange, and par and rate are then generally reckoned together as the rate of exchange. But there is a theoretical difference between variations caused by the fluctuations in the value of the local currency and those caused by the supply of and demand for

bills. And although the par of exchange is normally constant, when a currency is depreciated or varying, the variations in the par may be far greater than those in the technical rate of exchange.

A disadvantage of a varying par of exchange is an unsettlement of prices out of which the commercial classes make extra profit by reason of a charge on all transactions, in the nature of a premium for risk, which is always in excess of the actual risk encountered. Exchanges of goods are unimpeded and sometimes even stimulated by a depreciation of a metallic or paper currency, while the condition of labor and laboring producers like farmers, may be impaired through the well known principle that wages are stationary to a greater degree than prices.

The effect of a depreciation of any of the currency of a country in ridding the country of the undepreciated part of its currency, cannot be ignored, as it is one of the most important facts in the science of money.

SECTION 75.—*The International Money.*—It may be gathered from the facts of the par of exchange that there is an international money by which bills are circulated, and that it is really the money of the international exchange of commodities. What is this money? It is gold bullion. It is a money esteemed mostly for its quality as common denominator of price, and not at all as a medium of exchange. Currencies are limited by national boundaries. Without some general common denominator of prices throughout commercial countries, bills for the price of

goods, could not be accurately drawn or securely discounted, except with the wide margins that formerly prevailed in cases of all bills between different countries.

SECTION 76.—*The Rate of Exchange* is governed by the supply of and demand for bills, which makes a rate which is added to, or subtracted from the par of exchange, in computing the cost or value of a bill. This rate is either a premium or a discount.

The market for bills is based upon the whole of the claims upon a country and the whole of the debts due thereto. The rate is limited somewhat by the fact that one may buy or sell early, or postpone it until his debt is due and must be paid. When the debts due to and from a country are quite unequal, that country will tend to correct the state of the exchanges by an increased exportation or importation of goods producing debts or claims to even up the account, for a one sided exchange adds to, or subtracts from prices, a stiff rate of exchange.

The cost of specie is the limit beyond which the rate of exchange can never extend. If the buyer of a bill with which to pay his debt abroad, could send specie to pay it at a less cost, he would do so, of course. It sometimes happens that this is done, although the debtor does not usually send the cash himself, but bankers and brokers, seeing that the demand for coin where the debt is due, will yield a profit on the transmission of specie, undertake the business. Otherwise bankers and brokers who have sold exchange on a

country where they cannot buy bills to meet it, must remit specie to adjust the balance.

It may be said, however, that every exportation of bullion does not show such a high rate of exchange as to make it necessary to adjust the exchange, for every gold producing country exports bullion the same as it exports any other commodity. But it is sold where it will bring the best price, and, if exported, this indicates, at least, that the market for it is best abroad, that is, that exchange is favorable to its exportation. And the price as made by the exchanges must be as much greater in the country taking the bullion, than in the country producing it, as the difference between the cost of transportation from the mines to the markets of the two countries respectively.

The exchange market is managed by bill brokers, dealers in exchange and an immense banking organization so that the greatest transactions, the immense English loans to the colonies and to the United States, and other countries, and even great government loans are effected almost entirely in bills of exchange rather than by transportation of bullion. The most unequal market for bills in any country, growing out of a decisive balance of trade for or against it, is so managed, too, by the use of indirect exchange.

The great debts of the United States to China and Brazil for tea and coffee, not being offset by exportations to those countries, are settled by bills through England with whom our balance is different, and whose balance with China and Brazil is different.

It is to be observed that bills and the system of exchange reduce the cost of doing the business of the world, for no bill is used where direct payment in coin is cheaper. It goes without the saying that the use of coin is enormously decreased by the foreign exchanges, and that the use of coin bears no proportion to the increase of business, since the greater the value of business, the more perfect the play of the exchanges.

SECTION 77.—*The Rate of Discount.*—Interest on bills is taken in the shape of discount. The rate of discount is that of the country where the bill is payable, although the price of the bill may be affected by the difference between the rates of interest in the country where it is drawn and that where it is payable. According as this rate is higher in one country than in the other, will it favor one or the other of the parties to the bill, and cause him to hasten or delay the negotiation of his bill. Thus the difference in the rates of interest affects the market for bills, and through that, the rate of discount.

The rate of discount is of paramount influence in the flow of the precious metals from one country to another. When the discount rate is high gold flows towards that country in settlement of exchanges, and to take advantage of the high market. On the other hand, when gold is leaving a country and endangering the reserves, banks, especially the public banks of Europe, raise the rate of discount to counteract the outflow. Such changes in the rate are more frequently and consciously made now than heretofore. The Bank of England often raises its rate

of discount by leaps and bounds to preserve its bullion, as its reserve is more sensitive than any other, and the bank is censured for neglecting to do this promptly.

The rate of discount, of course, affects the international flow of loanable capital and the transfer of stocks and bonds from one country to another. The changes in the rate of discount have their influence on prices of stocks and merchandise through their effect upon money and credit. But changes in the rate so far as made to counteract conditions which tend to change prices have a levelling effect on prices.

SECTION 78.—*A General Reservoir of Coin* containing all the coin and bullion of commercial countries, is created by the operation of foreign exchanges. Therefore the business of a modern country is really founded on all the gold in the world, rather than on its own particular coinage. When a country needs more gold, its foreign exchanges produce the conditions necessary to the importation of bullion. And conversely, when there is a redundancy of the precious metals, they are apt to find their exit through the foreign exchanges.

There is usually nothing to fear from any exportation of gold under natural conditions. Exportations extended enough to impair the banking reserves may indicate unnatural conditions and may be properly counteracted by an increase in the rate of discount by the banks, or by any other means, to restore natural conditions, which also tend automatically to restore them-

selves, if the exchanges are left to do their work undisturbed by public authority.

SECTION 79.—*Checks* are by legal definition inland bills of exchange payable on demand. They are more properly sight bills on a banker. In form they very much resemble bills. Being drawn by depositors and therefore provided for in advance, bankers as drawers are bound to pay checks without acceptance.

Checks are a means of making payment, and bills, of obtaining payment, in the first instance. Checks are used in cash transactions, and bills in those where time is of the essence of the transaction either as a term of credit or time required in transportation. By reason of quicker transit, better means of communication, and faster methods of doing business, prompt payment is made by checks, and bills become unnecessary, especially between points in the same country.

Checks do not profit the bankers. They do not at any time, represent a loan by a banker, but rather a calling in of a loan to the banker in the shape of the previous deposit. So far as checks prevail, bankers' loans tend to take the shape of notes rather than bills of exchange. Foreign bills discounted or deposited, of course, furnish a foundation for checks, or as we may call them, domestic bills.

This check currency or deposit circulation is so natural, convenient, elastic and economical, that it seems a matter of regret that it could not become the sole currency. But here we are confronted with the usual practical impossibility in the way of theoretical singleness and perfection.

The check currency itself depends upon the coin currency, and though it dispenses with enormous masses of basic currency, it seems to render the comparatively little that is necessary, the more necessary.

SECTION 80.—*Checks as Currency* play a far greater part than do either notes or bills. In England and the United States, and measurably in other commerical countries, the greater share of cash payments are effected by means of checks upon bankers. Practically all large sums, not paid by notes and bills, are paid by checks. It is getting to be a most extraordinary circumstance that payments of over a thousand dollars are made in coin or even in paper legal tender. It should be noted again that payments are made, more and more, by check, while bills and notes are discounted and simply to go into bank accounts to serve as foundation for the drawing of checks.

By the perfection of the machinery for the payment of checks and especially for the circulation of checks held by one bank against others in the same district, by means of clearing houses, combined with the fact that most checks are not presented directly for payment, but are deposited with other banks for the depositor's account, enormous aggregates represented by checks are paid by the actual passing of very little money. Were it not for checks, and payments were made in cash, if it were physically possible to so transact the business done, many times the amount of coin in circulation would be necessary.

SECTION 81.—*Promissory Notes* are purely credit instruments. Most notes "for value re-

ceived" "promise to pay" some one or his order, a certain sum at a particular time. Notes intended to be discounted are not written "with interest" and do not run usually more than ninety days. Bills for "accommodation" drawn upon one who owes the drawer nothing, are really notes of the drawee to the drawer.

When one wishes to borrow money upon his general credit, he makes his promissory note which is in no way based upon particular property. But we may remark that notes are not negotiated in the market upon the goodness of a man's character or upon confidence in his honesty; but that they depend upon the maker's reputation for wealth and for regular payment of his debts or in other words, upon his commercial rating.

In the commercial world, and with banks which discount notes, it is a part of the business to see that an ample amount of property is behind every note taken. An indorser is always required, and if the maker is at all unknown or suspected of financial unsoundness, another good indorser, or even more than one, must be procured; so that, to the lay mind, several times the amount of property promised by the note, is readily available for its payment. One not accustomed to business is astounded at the requirements of a bank before it will discount a note seemingly perfectly secure. This is to make up for the remoteness and indefiniteness of the connection between the note and the property which may by law be ultimately devoted to its payment.

Very many makers of notes now regularly dis-

counted, carry along collateral as security for their payment. This collateral is paper representing property, usually the bonds or shares of corporations. This direct pledge of property dispenses with any further security. The paper used as collateral is especially adapted to the purpose, for its income is not affected by its pledge. The owner still has the beneficial use of the stocks or bonds he has pledged, except that he cannot pledge them again, or sell them until redeemed.

Notes, like checks and bills, are payable at the bank of the person liable thereon. When a bank pays a note of a depositor, his account is charged with the amount thereof. In practice, notes are deposited or discounted at the payee's bank, and are cleared to the bank where they are payable, along with the checks and bills which are regularly offset against each other at the clearing house.

Of course notes may pass from hand to hand by indorsement and each time pay a debt and thus act as currency. But the tendency seems to be, to deposit notes as well as bills more quickly in bank, and make checks the actual intermediaries for the payment of debts. The bank interposes its credit between the notes and bills of individuals and the public which is to receive payment for its debts. This enables the use of credit to pay debts of any size regardless of the amounts of those for which bills or notes have been drawn. The quality of credit is thus made uniform and acceptable, and capable of infinite division and aggregation.

SECTION 82.—*Credit Instruments as Money* have no function except as medium of exchange. They serve in the wholesale business where any other medium of exchange would be expensive and inconvenient. Their field is one in which they have developed with the field itself, so that they cannot be said to have replaced coin, but to have taken a place coin could never have filled. Large business, under no conceivable conditions, could be transacted upon a strict cash basis. It is done on a clearing house or mutual debt cancelling basis. Credit instruments and the bank and clearing house machinery by which they are operated, constitute a special medium of wholesale exchanges.

SECTION 83.—*The Effect of Money on Credit Instruments* is the same as its effect on business generally. A good coined money facilitates the establishment of credit and the increase of credit instruments, while a bad money blights both.

Although the reserves which serve as the foundation of credit and for the redemption of credit instruments, are of necessity of medium of exchange, money affects credit and its instruments mostly as common denominator of prices. Indeed, credit instruments name and carry the prices of goods, so that they are necessarily expressed in the common denominator of prices and depend upon it for their existence.

The large business in which credit figures, is conducted upon a much narrower margin of profits than the retail business which uses the ordinary medium of exchange; and is therefore, more affected by any changes or imperfections in

the common denominator of prices. Credit and credit instruments can create no denominator of prices nor any addition thereto, but are absolutely dependent upon the original denominator. The development of credit makes the perfection of the common denominator of prices the more important, as credit instruments increase in volume. When the common denominator is destroyed, as it frequently has been, credit immediately collapses. Deterioration and threatened destruction of the denominator withers credit and dissolves its instruments.

SECTON 84.—*Credit Economy.*—Money appears and does its work at the end of the process of production. While directly stimulating production, the peculiar office of money is, in the hands of the consumer, to make final connection and transfer the production to the consumer. Money is the consumer's special instrument. It gave the consumer liberty, but not opportunity. Until a stronger mechanism appeared, production was a household or group industry. Credit added to money was needed to lift the individual into the place of the primitive producing group.

Medieval accumulations of wealth were more oppressive than otherwise. All the profits of trade as conducted, were oppressive. Loans were made in actual money, and the rates of interest were exorbitant. Producers as distinguished from traders, could not afford to pay the rates of interest current among exchangers.

With the creation of economic credit, it became possible for individuals to obtain and profit by borrowed capital in all sorts of productive en-

terprises, except in agriculture. It was not only as though the quantity of money was increased, but as though its quality was improved and its power intensified. Credit is a far better instrument of production than an equal quantity of coined money.

Money economy gave liberty, credit gave opportunity. By credit the competitive system has developed so as to be able to replace the primitive group system, and even surpass its accomplishments. Without credit, individuals could not extend their operations so as to supersede the collective system which subsisted as some form of natural or involuntary co-operation until the rise of credit in Europe.

While money is an indispensable denominator of prices and medium of small exchanges, credit may be called the instrument of large exchanges and large production. Moreover, this instrument is economically costless, and not, like money, with a commodity value and expense.

CHAPTER V.

PAPER MONEY.

SECTION 85.—*Bank Notes* are credit instruments, in form like promissory notes, but having more of the quality of paper currency. Instead of being given, like the promissory notes of individuals, with strict conditions as to the credit of the parties to each one, they are issued by the banks, each for a small convenient amount or denomination.

While the making and delivery of a promissory note is, as to each one, a comparatively formal matter, the issue of notes by a bank is quite a different thing. Bank notes engraved and signed in large numbers, are placed in the cash drawers and paid out in the ordinary course of business, in the same manner that coin is disbursed. Though frequently of larger denominations than the largest coins, bank bills go in numbers in each transaction, and. along with coin, without opportunity to consider their credit or security.

When the depositor or customer of a bank has taken bank notes, he passes them along to other people exactly as he would coin, and usually with as little formality, and with none of the scrutiny

to which a promissory note or bill or check is subjected each time it is indorsed to a new holder, and by him received. The community passes judgment upon the note issues of a bank as a general matter, not as one affecting one's self and a single transaction, so that the matter is hardly brought home to each individual's judgment, until the notes are in full circulation, and no one can exercise any independent judgment as to them except in a general way, and at great inconvenience and loss of business, if that judgment is contrary to the general practice of the community. The judgment of the people upon bank notes is obscured by the glamor of the name bank, and by universal desire to borrow and receive money or anything that will serve as money.

The discretion of the bank is warped by the ease and profits attending the creation and issue of notes. So pleasant is the thing and so exhilarating is the early result upon business, that, as we have seen, bank notes are almost always overissued. Under free banking, issues get beyond the moorings of solid security. A bank's property so easily becomes largely itself credit that its notes easily, almost unconsciously, become almost disconnected with property and practically unsecured.

Experience therefore dictates that bank notes shall be issued only when specifically secured by their face value in coin or easily available securities.

SECTION 86.—*Notes of Government Banks* now constitute the bulk of the paper money in existence.

Many of the early Italian city banks were founded upon a capital consisting of the promises of the government to pay a loan forced from the incorporators. The Bank of England was likewise founded upon a capital loaned to the government in anticipation of the charter of the bank, and held in the form of government securities. The Bank of England now issues practically all the paper money of the country. It is issued under strict legal limitation to the amount of the original loan upon which the bank was founded, and besides that, only to the amount of coin deposited when notes are taken. The newly reorganized Bank of Germany follows the example of the Bank of England in limiting all but the nucleus of the note issues to equal amounts of coin deposited in the bank.

In most of the countries of Europe, a government bank issues all the paper money allowed in the country, under strict governmental regulation. The notes of these banks are based upon the capital of the banks; government securities, and a certain percentage of the issues reserved in coin for purposes of redemption. These coin reserves vary from about one-fourth of the issues to nearly one hundred per cent. in the cases of the banks of France and England.

The national bank notes of the United States secured by their full face value in government bonds deposited in the Treasury, resemble somewhat the nature of the notes of the single banks established as banks of issue in the different countries of Europe.

All these government bank notes partake of the

strength of their countries in time of peace, and of their weakness in times of war. They are all, in ordinary times, redeemable in coin.

Government banks having a large and assured business as bankers for their governments, are safer issuers of paper money, probably, than would be the governments themselves. The combination of the patronage of the government with the highest banking management has been much more successful than any other method of floating a paper currency.

Aside from the issue of paper money, it is questionable whether every government should not establish a bank in which to deposit its revenues, and loan them in the market so far as practicable. The accumulation of surplus revenues in the vaults of the government of the United States frequently seems to be a menace to the circulation by producing an appreciable stringency.

SECTION 87.—*Paper Money* directly issued by a government, has always taken the form of promises to pay coin. It has usually been, at first, a forced loan. The government, being in need of service and materials, especially for war, and not having sufficient income with which to pay for them, issues its notes in payment, and decrees that they be accepted therefore, and, moreover, accepted by any citizen in payment of his debts. The government usually has the grace to promise to receive, in its turn, the same notes in payment of dues to itself.

The notes composing a governmental paper currency circulate upon the same conditions as do notes issued by a bank, that is, because the

people will receive them as money, and the issuer will constantly redeem them in coin. The confidence which allows such circulation is in large measure dependent upon the existence of a sufficient redemption fund exactly as in the case of bank notes, and of the notes of the banks of the different nations.

In the United States a reserve of $100,000,000 in gold has floated $368,000,000 in greenbacks, and held as much more depreciated silver at a parity with gold. But the reserve has been increased by half and the greenbacks have been restricted in circulation, so that, when once redeemed, they can only be reissued for gold.

As paper money cannot be used in the foreign exchanges, the United States gold reserve, and the gold reserves of the national banks of the different countries of Europe, are the reservoirs from which are drawn the trade balances between the nations. We cannot therefore say that these reserves would be unnecessary even if there was perfect confidence in the note issues and the credit of the government.

SECTION 88.—*Over-issues of Paper Money* by governments are just as natural and inevitable as in the case of bank issues. If the first issue of paper currency has arisen out of the necessities of the government, the continuance of the same necessities almost invariably call out over-issues. Even if an overruling necessity does not control, no wisdom is sufficient to adjust the issues to the needs of the people for currency.

The experience of the world has been that national paper currencies have been over-issued and

have collapsed. From the monumental failures of French paper currencies in the last two centuries, to the enormous paper issues of the Confederate States of America in 1861-5, there have been disastrous issues of paper money by all sorts and conditions of nations, with none so successful as to be continued voluntarily.

The British North American colonies early developed a penchant for paper currencies. Some of the most disgraceful pages in history record the unvarying abuse of paper issues in the colonies; and the enormous issues of the united colonies soon became "not worth a continental," though the colonies became independent and grew to be a great nation.

The United States were strong and rich and conservative enough to carry the paper currency growing out of the Civil War until part was made a part of the national debt, and the rest brought to a par with coin by providing a metallic fund with which to effect its redemption as desired. It is very questionable, however, whether it would not have been just as easy and cheap to have provided for the civil war by loans without disturbing the currency, as to emit greenbacks in defiance of the provision of the constitution, founded upon colonial and confederation experience, evidently intended to confine the federal government to metallic currency.

SECTION 89.—*Inconvertible Paper Money.*—Until this time, no paper money has been made inconvertible into coin when issued. But when a first issue has been for a time held at par with

coin, excessive issues have invariably rendered all inconvertible.

The issue of a paper money indicates a suspension of coin payments on the part of the government; and it has always had precisely the same effect as the suspension of banks or individuals. When specie payments are suspended, whether before or after the issue of paper money, and such paper is not redeemed at the option of the holder, it becomes, for the time being inconvertible. Irredeemable, inconvertible notes always depreciate in value increasingly as the period for redemption grows remote, until they become valueless when redemption appears impossible, as in the case of a suppressed government.

It is supposed by some, as a matter of policy, to issue fiat money, or totally irredeemable paper money. They propose to dispense with any promise to pay anything, and just print the names of former coins upon paper, enact that such paper is legal tender for debts public and private, and expect it to perform the function of coin. Paper issued in this way would not differ from any issue of a paper money never intended to be redeemed, no matter what formula was used upon the paper; nor would it differ from any currency which had become inconvertible by the failure of the issuer to carry out his promise to redeem.

It might seem sufficient to say that an irredeemable paper currency has been many times involuntarily tried and invariably failed disastrously, and that therefore sufficient experience taught the impossibility of making money by fiat of government.

SECTION 90.—*Paper Money as Medium of Exchange.*—Advocates of the issue of a paper currency for the ordinary purposes of money, think that such money is founded upon the credit of the government, and that that credit is equal to that of all the citizens, and is supported by the entire wealth of the country. But this is a complete fallacy. The government does not own the property of its citizens, and cannot and will not, undertake a wholesale confiscation for any purpose. What property a government does own cannot be applied to the payment of its debts, nor is such a thing ever contemplated. The credit of the government therefore grows out of its reputation as a debt paying concern. And if a government makes no pretense of paying its paper, or issues its paper without any promise at all, there is no appeal to credit.

The so called credit of the government as applied to its paper currency, consists in the fact that the paper is received for dues to the government. But this will not sustain a medium of exchange. Taxes form but a minute fraction of the payments constantly being made with money. History records repeated failures of this support of a medium of exchange. Indeed this provision tends to nullify the government's hold on the property of its citizens, even when it tries to keep paper at par and convertible, for it is compelled to receive its taxes in the very paper to support which it is trying to gain coin.

Enacting that a paper currency shall be a legal tender for private debts does not necessarily make it exchangeable for property. Paper money may

serve to cancel maturing debts, but, if unacceptable, no new debts would be contracted to be paid therewith.

It is a mistake to suppose that debt cancelling power necessarily sustains a medium of exchange. Debts may be cancelled by enactment alone, but no government could compel general exchanges between its subjects. An unacceptable legal tender for debts cannot be made generally exchangeable among subjects for their property. People cannot be compelled to sell their property if the owners object to the money likely to be offered in payment.

Making a paper currency legal tender for private debts never helps to keep it at par, but rather hastens its depreciation. Every increase in the severity of the penalties for refusing to accept paper at par, only calls attention to its infirmity, and renders the people less liable to let it circulate at all, by giving them no option to use it in their dealings at a fair valuation.

Government paper money like all private credit currency, must be instantly redeemable in coin to make it circulate as a medium of exchange. No paper medium of exchange can exist without this redemption in the coin denominator of prices.

SECTION 91.—*Paper Money as Denominator of Prices* is a complete failure. This function of money arose in a species of property, and is invariably connected with some kind of property. Price is a ratio between the values of two commodities. A ratio cannot exist without two terms. To compare values, value must exist or be represented upon both sides. Representation of

value cannot continue without being, at least, occasionally, exchanged, as well as exchangeable, for the value it represents.

The human mind is so constructed that it cannot continually compare something with nothing, some value with no value, without arriving at the true mathematical result. A finite quantity divided by zero or nothing, produces infinity for a quotient. The value of commodities divided by the unit of a currency without value, tends to produce as a quotient, an infinitely great price. The prices expressed in a paper currency, therefore, have an invariable tendency to increase until it takes a basketful of currency to buy the basket.

It goes without the saying that if an inconvertible paper currency has no capacity to be the common denominator of prices, it can have only less capacity as a standard of deferred payments.

We have learned that any paper medium of exchange whether issued by a person, a bank, or a government, must be redeemable in coin, to maintain its credit. But perhaps a more fundamental necessity for redemption arises out of the fact that the two leading functions of money cannot be separated, and that, as we have already seen in this section, a common denominator of prices must have value. Any medium of exchange flies off into nothingness, depreciates indefinitely, if it has no value, or cannot be exchanged for some definite thing of fixed value. It is for this fundamental reason that notes intended to circulate continually as money must be redeemable in coin. The metallic reserve is then the common denomi-

nator, and this quality is imparted to the paper circulation because it is freely exchangeable for metallic denominator.

It is perhaps unnecessary to say here that no paper medium of exchange could be made a good money by making it redeemable in any incommensurable property like land, or any other property not having all the qualities necessary to the common denominator of prices. The Assignats of France, and the land banks of issue all over the world have invariably been failures. A proposition now before congress to allow national banks to make one-fourth of their loans upon mortgages, is, without doubt, pernicious.

Through redemption and the use of credit, a volume of medium of exchange very much greater than that of the reserved common denominator of prices may be obtained. The increase is credit. It is legitimately very great, and would seem to be enough to satisfy all but the most sanguine and most avaricious. But it is to be understood that the best results are obtained through regular banking operations, and not by the issue of bank notes or paper money.

History is full of examples of the instability of paper currency. The paper money delusion is one of the most persistent of political fallacies. It is perennial. No repetition of disaster seems to have any lesson to those who persist in trying to make something from nothing, either individually or collectively. The same class of individuals who live in hopes of wealth out of credit based on wind, believe in proportionally greater re-

sults from collective use of the same delusive basis.

SECTION 92.—*An Elastic Currency* is a favorite idea of many people. They conceive that governments or banks can issue money that will go out when needed, and come back when its mission is accomplished. But an issuer of notes wants them back least when other people want them least, when currency becomes redundant. Once issued, experience dictates that paper money cannot be made to return to the issuer simply because there has come to be an over-supply. When local and temporary demands for money have been met, and have ceased, the paper money flows to the sources of credit and to the places where the reserve cash of the country is kept, the large city banks, there to cause disturbance.

Pleas for an elastic currency are heard when prosperity is at its height and speculation bids against industry for the use of the credit of the world, and when depression has appeared and money has disappeared because the use of capital is no longer profitable. In the first case the temptation is to trade beyond one's capital; and, in the second, to invent a cheap fictitious capital, because the use of real capital is unprofitable. In both cases the real conditions of the capital of the world are to be studied, and currency not created when not really necessary.

It is desirable that the efforts of the banks and the effects of the currency should be to make business uniformly profitable, rather than heighten even periods of prosperity, which, in the course of nature must be followed by corresponding de-

pressions. If the volume of money is sufficient for periods of normal business, it will have a sufficiently stimulating effect on periods of depression, and will have a salutary moderating effect in periods of prosperity. The speculators rather than those in legitimate business clamor for an elastic currency.

Whatever success the German Reichsbank has with uncovered bank notes issued subject to tax, is no precedent for the thousands of independent banks in the United States which would have no profit in issuing heavily taxed notes to stay out but a short time. Such an issue here would not return as in Germany, where one bank controls the whole issue.

Even the Canadian and Scotch examples of elastic bank notes do not apply, as those are small countries of few and large banks, with many branches which can easily control their issues.

Coin is really an elastic currency, as it may be called from the arts, or left to flow into industrial uses as needed. By the foreign exchanges it flows from one country to another in any part of the world, according to the varying needs of business.

The credit instruments constitute a truly elastic volume, and subserve all necessary purposes of elasticity. From their nature they go out when needed and return when their mission is accomplished. It is therefore credit that is, and should be elastic. But the foundation of credit must be solid. The denominator of prices must be like a yard-stick, rather than like a rubber band. The

money term of the price ratio must be constant or prices will be more than ever deceiving and fluctuating.

Elasticity does not and cannot inhere in money of complete functions. Money has been developed as a medium of exchange which is at the same time a denominator of prices and a storehouse of value and standard of deferred payments. It is plain that elasticity is logically impossible to all these qualities except that of medium of exchange. It is the alleged changeableness in the value of gold, its elasticity of price, which has made some theoretical purists seek a more perfect money by the use of a multiple standard.

Any instrument, therefore, which should perforce perform complete monetary functions, should not be made elastic even if it were possible. Bank notes, if successful, must be a complete money, used in retail trade and as a direct substitute for gold, the price denominator. The elastic currency idea, then, as applied to bank notes, is just as fallacious and delusive as any other soft money notion that ever possessed the human mind.

CHAPTER VI.

REPRESENTATIVE PAPER.

SECTION 93.—*Bills of Lading* pass the title of property which is in the way of transportation. They are largely the foundation of the great system of bill credit as we have learned. As all property which is ever transported by a common carrier is, at some time, covered by bills of lading which may be used as a basis for credit, it is easy to realize their great importance.

SECTION 94.—*Warehouse Receipts* or dock warrants, represent the same goods as bills of lading, either before or after transportation. They prolong the time during which such property may be used as a basis of credit while awaiting final distribution to the consumer.

Warehousing is very greatly increasing. All classes of goods are being stored more than formerly. Storage involves a better grading, and, therefore, more thorough preparation for credit purposes. New classes of goods are constantly being brought under storage conditions. Cold storage, for example, brings a world of new goods into commercial importance.

Like bills of lading, warehouse receipts may be used simply to facilitate the sale or exchange

of the property represented, or they may be used as a basis of credit pending such disposition. They are a favorite collateral for loans obtained of banks upon promissory notes. The volume of such business is immense.

SECTION 95.—*Mortgages* carry a modified title to property, and are used as a basis for credit. The mortgage prevents a sale of the mortgaged property except subject to the mortgage, but does not prevent the use of the property by the owner.

Mortgages are much used to secure credit on real estate, the most incommensurable and inactive of property. They are the means of obtaining loans on residence property and farming land which produce little or no income. The credit obtained is less in amount than the value of the property mortgaged.

Not only is the credit obtained upon mortgage of property less in amount, in proportion to the full value of the property than in the other cases of representative paper; but the credit is not bank credit, being too slow and cumbersome for the security of such a credit.

SECTION 96.—*Corporate Bonds* are practically long notes secured by mortgage on the property of the company. They are freely assignable by indorsement without reference to the mortgage. Though bonds frequently represent nearly all the property of the company, their owners usually have no control of the affairs of the company, except to secure their interest through the power of foreclosure.

Corporate bonds are issued in denominations suitable for investment and negotiation.

SECTION 97.—*Corporate Stock* is paper representing ownership in the capital of a corporation. The capital stock is divided into convenient shares or denominations usually of one hundred dollars.

To the owner of a certificate of stock, it is representative of capital invested. But he may then use his stock as a basis for credit in another business or for any other purpose.

Unlike bills of lading and warehouse receipts, corporate bonds and stock represent permanent property, and the stock is itself as enduring as corporations are immortal.

Common stock issued in excess of material resources may be regarded as representative of future profits, the good will of the business, or the power of associated management.

The value of each share of stock is, or should be, as easily fixed and as well known as that of the simplest commodity. The trade in stocks is a simpler matter than that in wheat or cotton.

By the share device, capital becomes as fluid as the best graded commodity. It becomes a thoroughly convenient basis of credit. The most enormous loaning business is regularly done on notes made payable on call secured by the deposit of shares of stock as collateral.

Stock of corporations is the most remarkable as well as the most important representative paper affecting credit and the currency. It represents the capital including all kinds of the property of the greatest business concerns, their land, buildings, machinery, raw materials, finished products, good will and franchises. It divides the owner-

ship of a million dollar factory or a hundred million dollar railroad, or a billion dollar trust, among thousands of owners in all parts of the world. It enables one to hold, buy, sell or pledge a hundred dollar interest in such factory or railroad while it is actually running, and would be valueless if divided. The negotiation of stock neither interferes with the operation of the plant of the company, nor does the pledge of stock deprive the owner of the benefit of its dividends.

Capital is loaned to new countries mostly by means of the stocks and bonds of enterprise in such countries marketed in the centers of accumulated wealth.

Negotiable securities largely take the place of gold in the international exchanges, flowing backward and forward in obedience to the same laws of trade and finance.

The money market is very largely steadied by the action of the discount rates through the international stock market. A high discount rate squeezes out stocks held speculatively while a low discount rate enables everybody to hold stock on margin.

Finally it has been remarked that as the balance of trade is usually against the creditor countries, the securities of the debtor countries held abroad afford a ready means of payment of merchandise balances. This has no doubt tended to prevent a fall in the prices of the exports of the United States since the balance of trade has turned so largely in our favor and against Europe.

SECTION 98.—*The Credit of a Corporation* is

a thing quite apart from the credit founded upon its stock and bonds in the hands of their holders, as representative paper. Every company has all the powers of an individual to obtain credit and some companies use such power freely. But the bonds of a corporation amount to a permanent loan from the public to the company at the beginning of the business. Indeed the issue of stock may be regarded as an exercise of credit by the corporation. And, taking bonds and stock together, it generally exhausts the credit of the company, which thereafter, perforce, uses far less credit in the further conduct of its business in proportion to its property, than other concerns.

The decrease of the regular dealings in bills by banks and bill brokers in England is due, no doubt, to the growth of corporate methods. The general prevalence of corporations in business will tend to curtail the expansion of credit and change the character of that remaining.

SECTION 99.—*Corporate Credit* now tends to liquify even the most refractory species of property. Real estate to the extent necessary to their business has always been held by corporations. Land companies for the purchase and sale of land have long flourished and pursued their fitful courses to natural extinction by the completion of the business that brought them into existence. But it remained for the very latest of the years to develop real estate corporations having for their object to buy, improve and hold real estate forever.

The choicest metropolitan real estate will soon be tossed about by the bulls and bears of Wall

Street. How quickly all really merchantable city property will be represented by stocks and bonds, we shall see. The multiplication of credit possibilities by such a change is manifest. How much more available as collateral is the stock of the corporation "68 William Street," than the real estate at that point only salable or pledgeable by legal methods! How gilt edged will be the securities of the Astor Company! How enormous in amount will be the securities of the great corporations which will absorb the big office buildings downtown and the great hotels uptown!

Apartment house corporations may flourish in the richer neighborhoods. Tenement house corporations will be as solid as such property is profitable; and they would almost surely find it to their interest to vastly improve the most squalid of the tenement house districts as could never be done by individual proprietors.

In the realty company we may see the beginning of the end of the absorption of all property into associate ownership. Realty companies take the last step before companies that shall hold land for the sole purpose of using it productively even in agriculture, the slowest and greatest of the occupations of mankind.

Corporate credit as we have seen it developed may be regarded as the completion of an economic cycle by which the primitive household group, economically self-sufficient, and combining within itself all religious, political and judicial powers, has emerged into an equally powerful economic body which the members may freely

join or leave and which can exercise no authority of any kind over any unwilling individual.

Corporate credit may also be regarded as completing a credit cycle by which the connection between the lender and borrower has increased from an aloofness which has no apparent likeness to co-operation, until it has become a close business connection which is profitable without involving undue risk, which is conducted without labor or burden to him who wishes ease, which indeed involves no more than a lender's care and produces a partner's perpetual profits. The lender or investor in corporate stock may not participate in the affairs of the company even to the extent of casting an annual stock ballot; he may participate at such times only as he feels interested. Or he may be elected a director, and share the cares of the business. And, finally, he may secure to himself the full control of the business, and lay that control down without any new contracts and without any disturbance of the business.

Although ordinary corporations and their promoters are now large users of banking credit, so much so as to be producing a change in banking methods and conditions, corporate credit tends to support itself and extinguish the outsider. The organization of a corporation is a mobilization of capital. The treasury of a large company is practically a bank itself, its receipts and expenditures, by the law that gives life to credit, tend to average up, just as does a banking or insurance business. Indeed, we may fairly say that if the people wish to do business without the intervention of bankers or without paying them

tribute, they can do so by themselves going universally into corporations.

For example, if a thousand farmers enter into a farming company, they will have mobilized their labor, capital and credit so that they would have no necessary dealings with banks. The company would need to discount no paper. On the same principle the large concerns are said to insure themselves, the farming company could virtually bank and insure for itself.

Yet if the farming company, like many other companies, desired credit of the banks, and found it profitable, its credit would far exceed the combined credit of the former unassociated farmers.

Money economy did the Greek and Roman farmers no good, but injury. Credit has had little benefit to offer the farmer. Possibly he may redeem his position through the latest development of the system from which he has always been strangely out of sympathy.

SECTION 100.—*Representative Paper* represents and carries title to specific property. It has generally no element of credit in its character, but is used as a basis of credit or as collateral for credit instruments.

Through the multiplication of corporations and the increase in the production of storable commodities, and the extension of the processes of storage by canning, evaporating and refrigeration, nearly all property is being represented by paper instruments which liquify it and make it subject to free and simple exchanges, and make it a perfect generator of credit. This representative paper adds to the stability of credit, by fur-

nishing a quickly available basis which, in times of stress, may be almost instantly employed to ward off sudden dangers and provide for emergencies.

A chief value of these instruments lies in making wealth measurable and in dividing it up into manageable portions which may be freely negotiated. For this purpose, as in the case of pure credit instruments, the assistance of the common denominator of prices is of prime importance and is absolutely indispensable.

CHAPTER VII.

QUANTITY OF MONEY.

SECTION 101.—*Money and Retail Business.*—As we have seen, wholesale business is done entirely by means of credit instruments. Coin or money is required in retail business.

It must be understood, however, that practically all finished goods are handled, at least once, by the retail trade on their final distribution to the consumer. Although store accounts figure in retail business, the bulk of it is done in cash.

Wages, chiefly, are used in purchases at retail, and such trade is but the circulation of wages. Retail merchants daily deposit in their banks the cash they have received, whence it is obtained by the employers again for their pay-rolls.

It is worth noting that wages are what the laborer receives on account of production, for his share in the work of production, and that, in the last analysis, most of the expenses of production reduce to wages in the different stages and processes of production. Workmen use their wages for retail purchases, for their own consumption, of the very goods they have worked to produce,

and on account of which they have received the wages they spend—a most beneficial and instructive circulation.

SECTION 102.—*Money to Pay Wages* of laborers is the chief component of the necessary volume of money. Nearly all city laborers are paid in cash weekly. The small number of workers that are paid fortnightly, monthly or yearly, do not alter the general result. Salary receivers more often receive their salaries in checks, but their use of cash may be regarded as much the same as that of wage earners. Most wage earners and salaried men spend their earnings as they go, and spend them in cash, even where they are paid by check, frequently getting their checks cashed by tradesmen.

The farmer does not handle money to the amount nor with the regularity of wage earners. Traders and rich men generally use money for their personal expenses very little more than do laborers. Their larger and more general expenses are paid by check. Thus it may be safely calculated that wages and the cash personal expenses of non-wage earners average up pretty uniformly.

The census declares that the wage earners get a fraction over a dollar a day upon the average throughout the country. In northern cities, working men get from one to four dollars a day, and the latter figure covers the majority of salaries received and paid out in cash. There is then an absolute need of from six to twenty-four dollars weekly for every laborer.

Now suppose we take the highest figure for

wages, and calculate each laborer supports three others, or that one in four of the population is a laborer, we seem to find that some six dollars per capita ought to be all the currency necessary on account of wages if the circulation is complete in one week. If we need double that amount, it indicates that two weeks are necessary to make its rounds, which we may take to be the case.

SECTION 103.—*Money in Reserves.*—The amount of money necessary to be used in the reserves may be reckoned equal to the amount used in the retail trade, because money is used almost altogether in the retail trade through which all commodities pass; whereas the credit instruments serve in the wholesale trade in finished commodities and in the wholesale operations in the course of production. These wholesale operations are limited by the amount which the retail market can handle; and the credit used, no doubt, has definite relations to the volume of the retail transactions which are done with money. It may not be far fetched, therefore, to figure the wholesale business growing out of credit, as about equal to the volume of credit sustained by a reserve equal to the amount of money used in the retail trade.

This calculation would place the amount used in wholesale transactions done with credit instruments, from four to ten times the amount of the retail trade done with money; and this seems to sufficiently account for the growing number of processes through which commodities pass in production.

This calculation of course includes all actual handling of commodities for profit, all mercantile

speculation for which a definite amount of money in reserve is required; and no doubt leaves a fair margin for the speculations of the financial markets which are done with credit which is likewise based upon reserves of money.

SECTION 104.—*Volume of Money.*—This estimate for the necessary amount of money foots up to twenty-four dollars per capita of the population. It happens that the volume of money circulating in the United States during the last ten years of the last century has been about exactly this amount. The circulation now (1903) is about thirty dollars per capita. This is a more wasteful use of money than should be possible in the United States in the first years of the twentieth century.

Laughlin in his new book, Principles of Money, at page 387, says that "the existing stock of gold (about $9,000,000,000 or $10,000,000,000, of which less than $5,000,000,000 is used in the monetary systems of the world) is now so large that no restrictions on legitimate bank discounts can be assigned to a scanty world's supply of gold for reserves." Indeed, there is little doubt that the stock of gold and silver is amply sufficient for all monetary purposes without further extending the use of silver beyond the legitimate extensions of its subsidiary functions.

Without deciding upon the legitimacy of speculation in stocks or staples not intended to be delivered, it is a matter to be considered when the subject of the amount of needed currency is discussed. It may be seriously questioned whether the public or the government has any interest in providing supplies of money which are necessary

only for the sustenation of financial speculation. It is likely, however, that when money is so liberally provided for the needs of the producer and the retail trader as at present in the United States, the speculator will manage to get enough, and that the real producers and consumers can also hold their own without any trouble.

When therefore, a demand for money is obviously for the benefit of pure speculation, it may well be disregarded. And when the demand seems to be from the business interests, crowded by the competition of the speculators, yet the competition is not likely to prove troublesome to any one but the speculators, as it is plainly seen that stock market flurries lately have little influence on the general business of the country or of the world.

Section 105.—*The Quantity Theory of Money* has been discussed by economists chiefly with reference to prices. The older economists were unanimously of opinion that prices rose and fell as the quantity of money increased or diminished. Some later writers believe that prices are not affected by the quantity of money. These different views have been held with much confusion of thought, hardly any writer being entirely consistent with himself. Like most conflicts of opinion upon the subject of money, the confusion is due to a failure to separate the functions of money in considering this matter.

The most ancient use of money was as a medium in the very act of exchanging finished commodities. In the days of the metallic medium of exchange, and before credit was much used, the use of the medium very much facilitated trade

and to that extent strengthened demand. But this process did not go far before the use of the medium also added to the means of production of goods, and thus increased supply. Upon consideration of economic processes, it seems that these two opposite effects of the medium of exchange have much the same field of operation on each side of the scale, and that the two effects of the medium of exchange, as such, on prices, are very nearly alike in strength, and that they offset and neutralize each other.

SECTION 106.—*The Volume of the Denominator* has really been most considered by those who have discussed the quantity money, and therefore the majority have arrived at the quantity theory. The reasoning of none of them can be followed, however. It is a case of good law but bad reasoning.

At all times before the rise of credit, which we have seen to be comparatively recent, the influence of money on prices was that of the denominator of prices, especially as the influence of the medium was neutral. The denominator acted through the price ratio. Every time a price was made the price ratio was solved. A quantity of the denominator was compared with a quantity of commodity. The quantity of the denominator was its supply. The quantity of each commodity was its supply. There is no more reason for believing that the quantity of commodity had any different effect on the price ratio than the quantity of the denominator. The quantity of the denominator, as such, then, had its influence on

prices, tending to raise them as such quantity increased, and lower them when the quantity of the denominator diminished.

Mathematically this is plain. The denominator becomes the denominator of the price fraction. Each unit of such denominator decreases in value with the increase in the supply of the denominator, according to the law of supply and demand.

As the denominator of the price fraction decreases in value, the value of the fraction increases, therefore price, which is the value of the fraction, increases.

Another thing; the denominator of prices always has been, is, and always must be, a commodity. The same law governs the price of commodities in money as governs the price of money in commodities. So prices tend to go up and down according to the supply of, and demand for, money, and the cost of its production, as in the case of commodities.

Gold and silver, and all original moneys have been commodities to begin with, and no point can be located where they have ceased to be governed by the laws of commodities. Nothing can be a true member of the price ratio which is not as really a commodity as the other member. Nothing can be an adequate common denominator of prices which is not subject to the law of prices.

The ordinary law of prices is, however, subject to some modification due to the nature of the precious metals and their use as money. The supply of gold is not simply the yearly production, but this sum plus the whole existing stock of indestructible metal. Therefore, the whole

available supply of gold on the market is very large and very constant, but subject to a regular increase, the yearly production being quite uniform, though with a late tendency to increase considerably.

The demand for gold is divided into two parts, that for industrial purposes, and that for coinage. With the increasing wealth and population of the earth, the first demand is constantly increasing. And, although the use of coin is greatly economized in modern business, the great increase of trade, and the increase of the reserves necessary for the increasing volume of credit, no doubt make the demand for gold for coinage an increasing demand.

As has before been observed, the cost of production of gold probably does not vary much from decade to decade, nor from the price it brings in the market. The mining of gold in settled communities, like the States of Virginia, North Carolina and Georgia, has remained very near the margin of cost during periods of light annual yield and the late increasing production.

The cost of most commodities in this age of improved machinery of production, both material and financial, is essentially falling.

Whether, therefore, the price of gold is rising or falling in comparison with that of other commodities, it would take inscrutable wisdom to determine. Some observers think one way, some the other. The certainty is that the price of gold is more stable than that of any other commodity.

The decreasing supply of coin after the fall of the Roman Empire certainly contributed to the

fall of prices and decay of business in that dark period, although other conditions were the main causes of the industrial and intellectual paralysis.

The enormously increased supply of gold after the discovery of America, and again, after the discovery of gold in California and Australia, doubtless helped to raise prices and produce the enhanced prosperity following those events.

The quantity of the money affecting prices in any country on the gold basis, is all the gold in existence, which, through the foreign exchanges, is available for the necessities of each country. The quantity of the local coinage is of comparatively little importance, and the present enormous supply of gold tends to make the whole quantity theory of little practical difficulty.

SECTION 107.—*The Quantity Theory and Paper Money.*—While the supply of gold is governed by natural laws, that of paper money is determined by the will of certain men, whether private bankers or government officials. The universal tendency is to over-issue paper money. The hundreds of historic instances prove that, without the strictest limitation to a coin reserve with instant redemption, the supply of paper money invariably becomes redundant.

The reason that the temptation to supply paper money in too great quantities is irresistible, is because it costs the issuer nothing, or next to nothing, to print slips of paper that serve him temporarily at least as good money or solid wealth. Cheapened supply always tends to oversupply.

The demand for paper money can never be greater than that for coin, and is subject to early

suspicion and mistrust from the very fact of its plain want of intrinsic value. When the demand for paper money begins to fail to keep up with the supply, the fall in its price is not checked by any cost of production, and it falls to its cost, nothing. As the price of money falls, the prices of commodities rise, and inflation of money and prices run a race with collapse.

The history of paper money proves the quantity theory of money, and it, in turn, absolutely forbids any paper currency not representative of coin or redeemable in coin on demand. The quantity theory of money as well as the nature of the function of money require that money must have price based upon cost as well as upon supply and demand. The quantity of the common denominator of prices must depend upon the same economic laws as the quantity of the commodities whose prices are expressed in such denominator. The quantity of money on one side of the price ratios must be settled by the action of automatic economic forces just the same as the quantity of commodities on the other side of the ratios. Both sides must be governed by supply, demand and cost of production.

Paper money, whether redeemable or not is always peculiar to the country in which it is issued. It is, therefore, not subject to the check of the foreign exchanges, nor to anything like the international flow of gold. Changes in the amount of a paper money or even in a silver money, under present conditions, are very easy, and produce far greater derangements in the prices of commodities

than any possible changes in the gold currency common to many countries.

There is no question of the impracticability of an unconvertible paper money. The only question is: shall we create and maintain by redemption, paper money exceeding the amount of the coin reserve? And the answer is that the more a paper note is like a certificate of deposit of gold, the better it performs the functions of money.

SECTION 108.—*The Volume of Credit* sustains no more definite relation to the quantity of money in circulation than does the quantity of money define or limit the volume of business done therewith. As much depends upon the rapidity of the circulation of credit instruments and the rapidity of the turnovers in business, as upon mere volume of currency under ordinary conditions.

The volume of the credit instruments far outstrips that of true money. Though bank notes and paper money generally must be limited in amount closely to their redemption reserve, ordinary credit instruments may be several times the amount of the coin in which they are redeemable. With a sound business and a safe system of credit, the instruments of credit are not limited even to the total material wealth of the world.

The owner of saleable, but unprofitable, property may obtain credit by mortgage, equal to fifty or seventy-five per cent. of the value of the property. By the simplest rules, a producer has credit equal to the value of his property and the goodwill of his business. Merchants, like bankers, have credit up to several times their original capital. While a business is healthy, every loan gives in-

creased power of repayment, so that loans equal to the pledge value of the property may be readily followed by other loans, all safely repaid out of the profits of the extended business.

Banking credit, as we have seen, may exceed the reserves from four to ten fold. The reserves are practically equal to the capital of the banks. Therefore, banking credit may have a volume from four to ten times its property basis.

Most other forms of credit are less productive. But some speculative credits expand one's resources more than the banker can multiply his capital.

When cold storage was first practiced, it was said that one with ten thousand dollars might expend it for agricultural products to put into cold storage, and borrow nine thousand dollars on notes secured by the warehouse receipts. With the nine thousand he might buy more produce, store it, and borrow eight thousand on the receipts, and so on until he had some fifty thousand dollars' worth of produce on hand. Speculators in produce may do the like at all times.

Speculators in the financial markets buy and sell staple products and stocks, upon a margin of as low as three per cent. of the value of the property involved. Here a thirty fold credit is possible on account of the quick negotiability of the stocks or products which support the credit. With the development of the credit system, inflation of credit tends periodically to proceed until it exhausts the profitable fields of investment. New extensions of credit into unprofitable fields then become frequent. The profitable fields are over-

worked. Over production of commodities ensues. Prices fall and speculation leads to general losses. Then comes anxiety on the part of the holders of credit instruments to realize upon them before it is too late. The pressure is first noticed by a closer scrutiny of paper on the part of banks and their refusal to renew loans. Property purchased with credit has to be sacrificed. The volume of credit contracts and almost collapses—a panic ensues and business comes to a standstill.

It can readily be seen that the extent of this credit structure far exceeds any possible volume of money. When the structure has reached its limit, no amount of money could sustain it. Furthermore, when it collapses, money is locked up and not put out, because nothing is then profitable.

It is the voluntary and uncontrolled expansion of credit that leads on to panics. More powerful, conservative and intelligent banking interests are, however, doing much to counteract this tendency. And it is probable that the consolidation of business into the hands of large corporations not using credit like individuals, and controlling production, tends to avoid panics.

SECTION 109.—*Prices and Quantity of Credit.*—The instruments of credit, bills, notes and checks, constitute the deposit currency which is used solely as a medium of exchange as compared with the price denominator. We might therefore conclude, as does Prof. Laughlin, that the currency created by credit has no influence on prices. But the very much increased amount of credit currency as compared with money of com-

plete functions, must compel a pause. The new medium of exchange is used entirely in the processes of production. The consumer does not use it in his retail buying. The work of the deposit currency is therefore all on the side of supply. Its use enormously decreases the cost of production of commodities.

During and since the last two decades of the nineteenth century, bank credits have enormously increased, allowing a corresponding increase in the use of improved machinery. The prices of all services and commodities offered by those using credit largely, are falling with the growth of credit, while the prices of agricultural products offered by farmers who use little credit, are not falling in the same proportion. But while general prices have continued steadily downward, the increase in the production and coinage of gold, especially since 1890, has been unprecedented. So we have the result that before the expansion of credit, the increase in the volume of money tended to increase prices, since the latest and greatest expansion of credit, the increase in the volume of money tends to decrease prices by reason of the overshadowing importance of the credit function of money.

We may state the whole effect of the volume of money on prices, thus:

As medium of exchange, the changing volume of coined money has no effect on prices.

As denominator of prices, an increase of the amount of money, increases prices, and *vice versa*.

As generator of credit, the increase of the

amount of money tends entirely to decrease prices by its increase of the deposit currency used exclusively in production, increasing and cheapening the general supply of commodities.

SECTION 110.—*Interest and the Quantity of Money and Credit.*—It would seem that a mere glance into history would prove that interest is affected by the quantity of money and credit in existence. In all ancient times, yearly interest has approximated one-third of the principal. Only after the inflation of the money of the world by the great influx of gold and silver from the Americas and the East, did the rate of interest tend rapidly downward in Europe.

That the expansion of credit has had its influence upon interest is even more apparent. The ancient rate has not been lowered much in China and the countries of the East least affected by the increase of gold and silver and not using credit. Not until the use of credit became pronounced did the rate of interest anywhere become really reasonable. As credit becomes abundant in any city, state or country, at present, the rate of interest is reduced. The rate in the Western states of the American Union is reduced directly as credit is extended. Hongkong under the credit system has a modern interest rate, while in neighboring provinces of China, the ancient third is still exacted of the yearly borrower. The establishment of a bank in a rural village brings in city rates of interest, and drives the rural note shaver, with his twelve per cent., out of business.

Taking another view, credit is used directly in

the production of wealth, and, as such use cheapens wealth, so the value of credit to its user must be cheapened. Large production, falling prices and falling interest, go together.

CHAPTER VIII.

CONNECTION BETWEEN MONEY AND CREDIT.

SECTION 111.—*Development of Monetary Functions.*—We have noted the development of functions; first, the leading commodity gradually assumed the function of exchange medium; second, this commodity became denominator of prices; then it developed the quality of storehouse of value, and, finally, emerged the modern standard of deferred payments.

The major functions of money have been continually acquiring distinctness, and, in a measure, independence. The medium of retail exchange is one thing, largely silver, the common denominator is another thing, practically gold. The immense public and private treasures in gold in the Roman Republic, really storehouses of value, when gold was neither legal medium nor denominator in the Roman state, make a striking example of local and temporary independence of function in the course of monetary development.

It may be useful to notice that the standard of deferred payments was only in embryo until the other functions of money had brought trade to such development that debts could be made and

payment of the same deferred. While the first function of money was exercised in all prehistoric time, and the next two were both exercised in the earliest historic ages, the fourth function grew important only fitfully in the flourishing periods of Babylon, Phœnicia, and of classic antiquity, and finally established itself in the Middle Ages of Europe.

While the monetary functions of medium of exchange and denominator of prices have differentiated both as to their sphere of action and the instruments by which they act, they are yet as firmly as ever dependent one on the other. This is proved by the fact that interference with the medium has always affected the denominator, and that either natural or artificial changes in the denominator quickly affect the medium, as shown conclusively by the bimetallic perturbations of the currency.

SECTION 112.—*Credit, Fifth Function of Money.*—Our inquiry has shown how banking credit gradually grew out of dealing in money. There was no credit of any kind until some commodity had at least developed as a medium of exchange; and no great growth of credit took place until money had attained all its functions, and some of their true features had been recognized by such advanced thinkers as Oresme, Copernicus and Gresham.

Although the third function of money has long been exercised, its importance has been increased many fold since the development of credit. The use of money as stored value in reserve at the foundation of credit, exceeds, and is destined to much more exceed, any former use of the store-

house of value, even if it does not make the storehouse overshadow some of the other monetary functions.

The fourth function of money was of very late evolution. It is only now attaining much importance. This is due to its connection with credit. Credit creates deferred payments. Corporate credit, the latest growth of the system, involves a more than correspondingly great extension of deferred payments both in amount and duration.

We may remark in passing that credit is very modern. Money is the economic ancient of days, credit the reigning deity. Considering the importance of the credit system and remembering that it cannot be dated back over two centuries, when it seemed to arise just in time to nurse the Industrial Revolution, which began not a century and a half ago; we are compelled to marvel, so new is the economic world and our present civilization.

Trade in the medium of exchange developed credit, and redemption in the medium is still necessary to sustain credit. But the action of the common denominator of prices in liquifying commodities and making wealth negotiable is, of the two indispensable elements, the one which plays the part of the greater scope and importance. And although wealth is the ultimate basis of credit, the working basis is money. Without the intervention of money, credit has not existed, cannot exist, or even be rationally conceived.

The third and fourth functions of money hitherto of minor importance have developed largely with the growth of credit, with which they seem

to share a reciprocal nature, growth and importance.

We may, therefore, by way of analogy, if not of strict definition, and as a correct and striking illustration of a true principle, say that the generation and sustenation of credit is the fifth function of money.

SECTION 113.—*Development of Credit Instruments.*—So intimate has been the historic connection between money and credit, and between money and credit instruments, that their relations have always been confused. In the language of commerce, a loan of credit is a loan of money, the credit market is the money market. Loans were once made only in money, but are now made almost altogether in credit, although the language of the transaction has not changed. One of the delusions of the ages, not yet dissipated, is that certain credit instruments, for example, bank notes, are money, or can be made to perform the functions of money successfully.

Credit instruments have developed from and through money, but have become more and more distinct in their form, use and effect. The sphere of money, credit and credit instruments become every day more and more distinct and separate. The union of monetary functions and credit functions in the same instruments, has uniformly failed during the whole period of the evolution of credit and credit instruments. Nothing is better established by monetary history than this, which we repeat, that the functions of money and credit cannot be successfully united in the same instrument.

It is hardly worth while to go over the list of failures of bank notes, mortgage notes, and all sorts of notes, issued by banks and governments secured by business prospects, real estate and government revenues, from the delusive notes of Venetian bankers, and the French mandats and assignats, to the unsuccessful English country bank issues prior to the Peel Act, and the most instructive failures of all, the multitudinous issues of banks and government authorities in the English colonies of North America and the United States from the settlement of the country down to the year 1865. The total result is, as we have seen, that successful bankers and most governments have settled in practice upon issues of notes for circulation which are less and less credit instruments and more and more nothing but paper certificates of money deposited.

While, however, credit has differentiated from money, both in action and instruments, it is just as much united to money by the bond of redemption and by the necessity of money as a solvent of wealth, the ultimate basis of all credit. But, that credit depends for its continued existence upon money in the way of redemption, shows its differentiation from money. It is logically impossible that one thing must be exchangeable for the same thing, or, in other words, for itself, as a condition of its being. The instrument and its necessary redeemer cannot be the same or of the same quality. Redeemer and redeemed are as Gods to mortals.

Let us consider a practical matter. Although credit instruments cancel each other in business

and generally perform what may be called currency functions, such instruments cannot be successfully used as money in retail transactions.

Credit instruments must be handled with care and discrimination. Money in retail business must be passed swiftly and automatically. The instruments of credit therefore fail in retail business which is a phase through which all the matter of commerce, once at least, passes.

The currency made up of checks, or drafts upon deposits and which may be called deposit currency, as evolved by English speaking peoples, is more and more used by enlightened and progressive peoples. The deposit currency is independent of money except as a fund of redemption. It does not vitiate or impair the primary functions of money. In this respect it differs from all circulating notes so far as they are uncovered by their reserves. It is the more beneficial and scientific form of credit currency. Issue bank currency as well as paper money generally, is a hybrid of money and credit, which has always proved unsatisfactory and should not be encouraged.

SECTION 114.—*Future Legislation* and future progress must recognize the separation as well as the connection between all the monetary functions and especially between credit and the other functions.

Besides this, the main fact to be considered in the immediate future is the impending enormous increase in the output of gold, which is, as we have seen, money, whether or not it is needed or desired for such purpose. The success of the river dredge in itself insures a great recovery from the

bottoms of the streams issuing out of the gold regions, old or new, whether considered worked out or just discovered, from Pactolus to Yukon. Furthermore, new gold fields in Alaska, Siberia and Africa promise very great additions to the supply.

The new problem of gold will be its abundance rather than its scarcity. We may then consider that the money of the country should be confined to gold exclusively. All paper money of the denomination of five dollars and over should be made gold certificates issued by the Government.

But as a tribute to the past and a help to present usefulness, where the silver dollar will not circulate, one and two dollar notes may be made silver certificates representing about their gold value in silver. And, as has before been declared, the silver subsidiary coinage should be unified, extended and brought up to within, say, ten per cent. of its market value.

As to bank notes we have concluded that the banks have no interest in their continued issue. The issue of notes with modern safeguards, has little of the elements of credit, none of the possibilities of profit afforded by all creations of credit, and has no part in the desired business of the progressive dealer in credit. He prefers to keep his gold as reserved capital for the issue of deposit currency, where it will give him four times as much banking power.

Most important is it that any new action upon the currency should provide for a scientific basis for banking upon gold exclusively. With the reserves composed of gold only, their amount might

be reduced to say ten and fifteen per cent. of the deposits in the country and in large cities, respectively. Whether compelled by law or not all banks should follow up the present tendency toward gold reserves and advertise that fact in their reports and bids for business.

The deposit currency, the elastic part of the medium of business, should be encouraged and facilitated. All restrictions upon the size of banks, all limitations of the number of branches and their location should be abolished. The more credit and the better the credit the lower the interest and the greater the chance of the individual borrower.

With such changes made in advance of the coming flood of gold, money and credit will hold and improve their powers in the automatic business cooperation of the people of the earth.

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